DOCUMENT RESUME

ED 341 475 PS 020 246

TITLE	Program of Studies: Senior High Schools.
INSTITUTION	Alberta Dept. of Education, Edmonton.
PUB DATE	90
NOTE	679p.; For related documents, see PS 020 244-245.
PUB TYPE	Guides - Classroom Use - Teaching Guides (For Teacher) (052)
EDRS PRICE	MF04/PC28 Plus Postage.
DESCRIPTORS	Business Education; *Course Descriptions; *Educational Objectives; Fine Arts; Foreign Countries; *High Schools; Home Economics Education; Industrial Education; Language Arts; Mathematics Education; Science Education; *Secondary School Curriculum; Second Language Learning; Social Sciences; Social Studies; Student Characteristics; Student Development
IDENTIFIERS	*Alberta

ABSTRACT

This program of studies contains the mandatory requirements of each course or program in the Senior High School curriculum for the province of Alberta. An introduction lists the desired goals of education and the standards related to students' development of desirable characteristics. The bulk of the document reviews the course areas of: (1) business education; (2) fine arts; (3) home economics; (4) industrial education, focusing on general courses; (5) industrial education, highlighting six career fields; (6) an integrated occupational program; (7) language arts; (8) mathematics; (9) other courses; (10) personal development; (11) science; (12) second languages; (13) social sciences; and (14) social studies. Sections typically include a statement of the objectives of the course area; a description of the courses offered, including optional courses; and a list of learning resources related to the courses. (BC)

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PROGRAM *of* STUDIES

Senior High Schools

PS 020246

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PROGRAM *of* STUDIES

Senior High Schools

This Program of Studies is issued under the authority of the Minister of Education pursuant to Section 25(1) of the *School Act* proclaimed December 31, 1988 being Chapter S–3.1, Statutes of Alberta, 1988 with amendments in force as of September 1, 1990.

This document is printed on recycled paper.

Alberta
EDUCATION

Reprinted 1990

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PROGRAM OF STUDIES FOR SENIOR HIGH SCHOOLS

1990 CONTENTS

Introduction (1990) vii

Goals of Senior High School (1989) ix

Standards Relating to Developing Desirable Personal Characteristics (1989) xi

Communication and Thinking Skills (1990) xiii

Learning Resources (1990) xiv

Course	A. Rationale and Philosophy	B. General Learner Expectations (goals and objectives)	C. Specific Learner Expectations (content)	D. Basic Learning Resources
Business Education [general]	1985	1985		
Accounting 10–20–30		1985	1985	1989
Basic Business 20–30		1985	1985	1989
Computer Processing 10–20–30		1985	1985	1989
Law 20–30		1985	1985	1989
Marketing 20–30		1985	1985	1985
Office Procedures 20–30		1985	1985	1989
Shorthand 20–30		1985	1985	1989
Typewriting 10–20–30		1985	1985	1989
Business Education 10–20–30		1985	1985	1989
Computer Literacy 10	1984	1984	1984	1984
Fine Arts				
Art [general]	1986	1986		
Art 10–20–30			1986	1986
Art 11-21-31	1986	1986	1986	1986
Drama 10–20–30	1989	1989	1989	1989
Music	1990*			
Home Economics [general]	1983	1983		
Clothing and Textiles 10–20–30	1983	1983	1983	1983
Food Studies 10–20–30	1983	1983	1983	1983
Personal Living Skills 10–20–30	1983	1983	1983	1983

* Program information only.

Course	A. Rationale and Philosophy	B. General Learner Expectations (goals and objectives)	C. Specific Learner Expectations (content)	D. Basic Learning Resources
Industrial Education [general]	1983	1983		
Industrial Education 10-20-30 Series				
General Courses				
Drafting 10-20		1978	1978	1978
Industrial Education 10-20-30			1983	
Electricity-Electronics		1983	1983	1983
Materials		1983	1983	1983
Power Technology		1983	1983	1983
Visual Communications		1983	1983	1983
Agriculture 10-20-30	1990★			
Production Science 30	1978	1978	1978	1978
Industrial Education 12-22-32 Series [general]	1983			
Career Fields				
Construction and Fabrication				
Building Construction 12-22-32 Series		1983	1983	1983
Machine Shop 12-22-32 Series		1983	1983	1983
Piping 12-22-32 Series		1983	1983	1983
Sheet Metal 12-22-32 Series		1983	1983	1983
Welding 12-22-32 Series		1983	1983	1983
Electricity-Electronics				
Electricity-Electronics 12		1983	1983	1983
Electricity 22-32 Series		1983	1983	1983
Electronics 22-32 Series		1983	1983	1983
Graphic Communications				
Drafting 12-22-32 Series		1983	1983	1983
Visual Communications 12-22-32 Series		1983	1983	1983
Graphic Arts 22-32 Series		1983	1983	1983
Horticulture				
Horticulture 12-22-32 Series		1983	1983	1983
Mechanics				
Mechanics 12		1983	1983	1983
Related Mechanics 22-32 Series		1983	1983	1983
Automotives 22-32 Series		1983	1983	1983
Auto Body 12-22-32 Series		1983	1983	1983
Personal Services				
Beauty Culture 12-22-32 Series		1983	1983	1983
Food Preparation 12-22-32 Series		1983	1983	1983
Health Services 12-22-32 Series		1983	1983	1983

★ Program information only.

Course	A. Rationale and Philosophy	B. General Learner Expectations (goals and objectives)	C. Specific Learner Expectations (content)	D. Basic Learning Resources
Integrated Occupational Program	1990⋆			
Language Arts				
English Language Arts	1981	1981		
English 10–20–30			1981	1981
English 13–23–33			1981	1981
Communications 21a–21b			1978	
Literature 21a–21b			1978	
Reading 10	1987	1987	1987	1987
English as a Second Language 10a–10b–10c	1986⋆			
Français 10–20–30	1989⋆			
French Language Arts 10–20–30	1989⋆			
Ukrainian Language Arts [ECS–Grade 12]	1990	1990	1990	1990
Mathematics				
Mathematics 10–20–30	1990⋆			
Mathematics 31		1984	1984	1984
Mathematics 13–23–33	1990⋆			
Mathematics 14–24	1990	1990	1990	1990
Other Courses				
Special Projects 10–20–30	1970⋆			
Work Experience 15–25–35	1969⋆			
Personal Development				
Health and Personal Development 10	1985	1985	1985	1985
Career and Life Management 20	1989	1989	1989	1989
Occupations 10		1978	1978	1978
Physical Education 10–20–30	1988	1988	1988	1988
Driver and Traffic Safety Education 10	1983	1983	1983	1983
Science				
Science [general]		1984		
Biology 10–20–30		1984	1984	1984
Chemistry 10–20–30		1984	1984	1984
Physics 10–20–30, 22–32		1984	1984	1984
Science 14–24	1989	1989	1989	1989
Second Languages				
French		1981	1981	1981
German	1984	1984	1984	1984
Italian	1986	1986	1986	1986
Latin	1986	1986	1986	1986
Spanish	1983	1983	1983	1983
Ukrainian	1983	1983	1983	1983

⋆ Program information only.

Course	A. Rationale and Philosophy	B. General Learner Expectations (goals and objectives)	C. Specific Learner Expectations (content)	D. Basic Learning Resources
Social Sciences [general]	1985	1985		
Anthropology				
Cultural and Physical Anthropology 30		1985	1985	1985
Economics		1985		
Economics for Consumers 20			1985	1985
Microeconomics 30			1985	1985
Macroeconomics 30			1985	1985
Geography		1985	1985	
Local and Canadian Geography 20			1985	1985
World Geography 30			1985	1985
History				
Western Canadian History 20		1985	1985	1985
Canadian History 20		1985	1985	1985
Western World History 30		1985	1985	1985
Philosophy				
Origins of Western Philosophy 20		1985	1985	1985
Contemporary Western Philosophy 20		1985	1985	1985
Philosophies of Man 30		1985	1985	1985
Political Science				
Political Thinking 20		1985	1985	1985
Comparative Government 20		1985	1985	1985
International Politics 30		1985	1985	1985
Psychology		1985		
Personal Psychology 20			1985	1985
General Psychology 20			1985	1985
Experimental Psychology 30			1985	1985
Religious Studies		1985		
Religious Ethics 20			1985	1985
Religious Meanings 20			1985	1985
World Religions 30			1985	1985
Sociology		1985		
General Sociology 20			1985	1990
Sociological Institutions 20			1985	1990
Applied Sociology 30			1985	1990
Social Studies				
Social Studies 10–20–30	1990	1990	1990	1990
Social Studies 13–23–33	1990	1990	1990	1990

INTRODUCTION

This Program of Studies contains the mandatory requirements of each course or program in the Senior High School together with a list of basic learning resources. Regulations with respect to the credit value of courses, examinations and other matters relating to the operation of the senior high school appear in the current issue of the *Guide to Education: Senior High School Handbook*.

Teachers who want suggestions concerning methods of handling a given course will find them in the related teacher resource manual or curriculum guide. These documents are available upon written request from Alberta Education, Learning Resources Distributing Centre, 12360 - 142 Street, Edmonton, Alberta, T5L 4X9 (Telephone 427-2767; Fax 422-9750).

The assistance of advisory committees and other partners in preparing the individual programs of study in the various subject areas is gratefully acknowledged.

GOALS OF SENIOR HIGH SCHOOL

INTRODUCTION

The following statements of goals direct education for Grades 1 through 12 in Alberta schools. It is the basis from which specific objectives for various subjects and grades are developed. These goals for Alberta were adopted by order of the Minister pursuant to section 25(1)(f) of the *School Act*.

GOALS OF EDUCATION

Achievement of the broader goals of education must be viewed as a shared responsibility of the community. Maximum learning occurs when the efforts and expectations of various agencies affecting children complement each other. Recognizing the learning that has or has not occurred through various community influences, among which the home is most important, the school will strive to:

- develop intellectual curiosity and a desire for lifelong learning
- develop the ability to get along with people of varying backgrounds, beliefs and lifestyles
- develop a sense of community responsibility which embraces respect for law and authority, public and private property, and the rights of others
- develop self-discipline, self-understanding, and a positive self-concept through realistic appraisal of one's capabilities and limitations
- develop an appreciation for tradition and the ability to understand and respond to change as it occurs in personal life and in society
- develop skills for effective utilization of financial resources and leisure time and for constructive involvement in community endeavours
- develop an appreciation for the role of the family in society
- develop an interest in cultural and recreational pursuits
- develop a commitment to the careful use of natural resources and to the preservation and improvement of the physical environment
- develop a sense of purpose in life and ethical or spiritual values which respect the worth of the individual, justice, fair play and fundamental rights, responsibilities and freedoms.

The ultimate aim of education is to develop the abilities of the individual in order to fulfil personal aspirations while making a positive contribution to society.

GOALS OF SCHOOLING

Schooling, as part of education, accepts primary and distinctive responsibility for specific goals basic to the broader goals of education. Programs and activities shall be planned, taught and evaluated on the basis of these specific goals in order that students:

- develop competencies in reading, writing, speaking, listening and viewing
- acquire basic knowledge and develop skills and attitudes in mathematics, the practical and fine arts, the sciences and the social studies (including history and geography), with appropriate local, national and international emphasis in each
- develop the learning skills of finding, organizing, analyzing and applying information in a constructive and objective manner
- acquire knowledge and develop skills, attitudes and habits which contribute to physical, mental and social well-being

- develop an understanding of the meaning, responsibilities, and benefits of active citizenship at the local, national and international levels

- acquire knowledge and develop skills, attitudes and habits required to respond to the opportunities and expectations of the world of work.

Because the above goals are highly interrelated, each complementing and reinforcing the others, priority ranking among them is not suggested. It is recognized that in sequencing learning activities for students, some goals are emphasized earlier than others; however, in relation to the total years of schooling, they are of equal importance.

In working toward the attainment of its goals, the school will strive for excellence. However, the degree of individual achievement also depends on student ability and motivation as well as support from the home. Completion of diploma requirements is expected to provide the graduate with basic preparation for lifelong learning. Dependent on program choices, the diploma also enables job entry or further formal study.

STANDARDS RELATED TO DEVELOPING DESIRABLE PERSONAL CHARACTERISTICS

Children inhabit schools for a significant portion of their lives. Each day, in their relationship with fellow students, teachers and other adults who are in the school, children are exposed to a complex combination of influences, some deliberate and others incidental. In Canada, the common pattern of attitudes derives from many sources, cultural, religious, ethnic and legal. Public schools exist within this culture and it is from this culture that the schools' dominant values emerge.

The school, as the site of a child's formal education, is not the sole or even dominant determiner of student attitudes. Other important sources of influence include the home, the church, the media, and the community. Educators alone cannot, and must not, assume the responsibility for the moral, ethical and spiritual development of their students. They do, however, play a significant role in support of other institutions. The actions of teachers and the activities which take place in schools contribute in a major way to the formation of attitudes.

Parents and other groups in society clearly expect teachers to encourage the growth of certain positive attitudes in students. These attitudes are thought of as being the prerequisites to the development of essential personal characteristics. For the guidance of all, the following list has been prepared. The list is not a definitive one, nor are the items ranked, but, rather, the list is a compilation of the more important attributes which schools ought to foster.

The Alberta community lives with a conviction that man is unique and is uniquely related to his or her world. Generally, but not universally, this expresses itself spiritually, through the belief in a Supreme Being (e.g., God). Ethical/moral characteristics, intellectual characteristics, and social/personal characteristics must be treated in a way that recognizes this reality and respects the positive contribution of this belief to our community.

ETHICAL/MORAL CHARACTERISTICS

Respectful	– has respect for the opinions and rights of others, and for property.
Responsible	– accepts responsibility for own actions; discharges duties in a satisfactory manner.
Fair/just	– behaves in an open, consistent and equitable manner.
Tolerant	– is sensitive to other points of view, but able to reject extreme or unethical positions; free from undue bias and prejudice.
Honest	– is truthful, sincere, possessing integrity; free from fraud or deception.
Kind	– is generous, compassionate, understanding, considerate.
Forgiving	– is conciliatory, excusing; ceases to feel resentment toward someone.
Committed to democratic ideals	– displays behaviour consistent with the principles inherent in the social, legal and political institutions of this country.
Loyal	– is dependable, faithful; devoted to friends, family and country.

INTELLECTUAL CHARACTERISTICS

Open-minded	– delays judgments until evidence is considered, and listens to other points of view.
Thinks critically	– analyzes the pros and cons; explores for and considers alternatives before reaching a decision.
Intellectually curious	– is inquisitive, inventive, self-initiated; searches for knowledge.
Creative	– expresses self in an original but constructive manner; seeks new solutions to problems and issues.
Pursues excellence	– has internalized the need for doing his or her best in every field of endeavour.
Appreciative	– recognizes aesthetic values; appreciates intellectual accomplishments and the power of human strivings.

SOCIAL/PERSONAL CHARACTERISTICS

Cooperative	– works with others to achieve common aims.
Accepting	– is willing to accept others as equals.
Conserving	– behaves responsibly toward the environment and the resources therein.
Industrious	– applies self diligently, without supervision.
Possesses a strong sense of self-worth	– is confident and self-reliant; believes in own ability and worth.
Persevering	– pursues goals in spite of obstacles.
Prompt	– is punctual; completes assigned tasks on time.
Neat	– organizes work in an orderly manner; pays attention to personal appearance.
Attentive	– is alert and observant; listens carefully.
Unselfish	– is charitable, dedicated to humanitarian principles.
Mentally and physically fit	– possesses a healthy, sound attitude toward life; seeks and maintains an optimum level of bodily health.

COMMUNICATION AND THINKING SKILLS

The *Secondary Education in Alberta* policy statement, June 1985, (p. 14) states:

> The intellectual purpose of the secondary school should be emphasized by providing opportunities for all students to acquire basic communication and computation skills and to develop analytical, creative, and critical thought processes. These skills must be integrated across all subject areas. A continuum of general concepts, skills, and attitudes necessary for developing students' thinking skills will be integrated across the curriculum, from elementary education to the end of secondary education.

Further information regarding communication and thinking skills is provided in *Teaching Thinking: Enhancing Learning*, 1990 available from Alberta Education, Learning Resources Distributing Centre, 12360 - 142 Street, Edmonton, Alberta, T5L 4X9. Telephone 427-2767. Fax 422-9750.

LEARNING RESOURCES

Student learning resources are a subset of instructional materials. They are print or non-print instructional materials used by students in the implementation of provincial programs of study; e.g., books, films, videotapes, slides, computer programs, videodiscs.

Alberta Education authorizes student learning resources in two categories: **basic** and **support**.

BASIC LEARNING RESOURCES

Basic learning resources are those student learning resources authorized by Alberta Education as the most appropriate for addressing the majority of learner expectations of a course or courses, substantial components of a course or courses, or the most appropriate for meeting general learner expectations across two or more grade levels, subject areas or programs as outlined in provincial programs of study. These may include any resource format; e.g., print, computer software, manipulatives, video.

SUPPORT LEARNING RESOURCES

Support learning resources are those student learning resources authorized by Alberta Education to assist in addressing some of the learner expectations of a course or courses or components of a course or courses; or assist in meeting the learner expectations across two or more grade levels, subject areas or programs as outlined in provincial programs of study.

LISTING OF RESOURCES

Basic learning resources are listed in each program of study.

Support learning resources are listed in curriculum guides, teacher resource manuals and in information updates that are sent to the schools.

AVAILABILITY OF RESOURCES

Basic and some **support** learning resources are available for purchase from Alberta Education, Learning Resources Distributing Centre (LRDC), 12360 - 142 Street, Edmonton, Alberta, T5L 4X9. Telephone 427-2767. Fax 422-9750. Resources are listed in the *LRDC Annual Buyers Guide* and *Buyers Guide Supplements*. Other additional resources can be specially ordered through the LRDC, or purchased directly from the publisher or producer.

15

BUSINESS EDUCATION

CONTENTS

Business Education [general]

Accounting 10–20–30

Basic Business 20–30

Computer Processing 10–20–30

Law 20–30

Marketing 20–30

Office Procedures 20–30

Shorthand 20–30

Typewriting 10–20–30

Business Education 10–20–30

Computer Literacy 10

BUSINESS EDUCATION

A. PROGRAM RATIONALE AND PHILOSOPHY

Business education is an interdisciplinary study of the principles, procedures and technologies within the business environment and thus plays a significant role in meeting the Goals of Education and Goals of Schooling in Alberta schools. Within this program a student has the opportunity to learn more about the role of a future participant within a productive society and to build a framework for a successful career. The knowledge, skills, attitudes and habits expected in business assist students, upon completion of high school, to respond to the opportunities and expectations of the world of work.

The development of the individual's potential in the areas of psychomotor, affective and cognitive domains is central to learning and instruction. Individuals discover themselves and realize their potential by interacting with ideas, technology and people. The world of business is an appropriate focus for this interaction.

Presented from the dual viewpoint of the individual as a consumer in the marketplace and a participant in the production cycle, the content within the business education program provides for the development of:

1. Skills and knowledge all citizens need to participate successfully in the business world.
2. Skills for immediate job entry.
3. Skills and knowledge supportive of a business-related, post-secondary program.

The continuum of experiences within the business education program starts with exploratory activities in junior high school and expands in scope and depth at the senior high school level. The program can meet the three general objectives while providing viable alternatives and challenges for students at all levels of ability and interest. The relevance of the program is further enhanced through the integration of technology and related practices throughout the program, helping prepare the student for the information age.

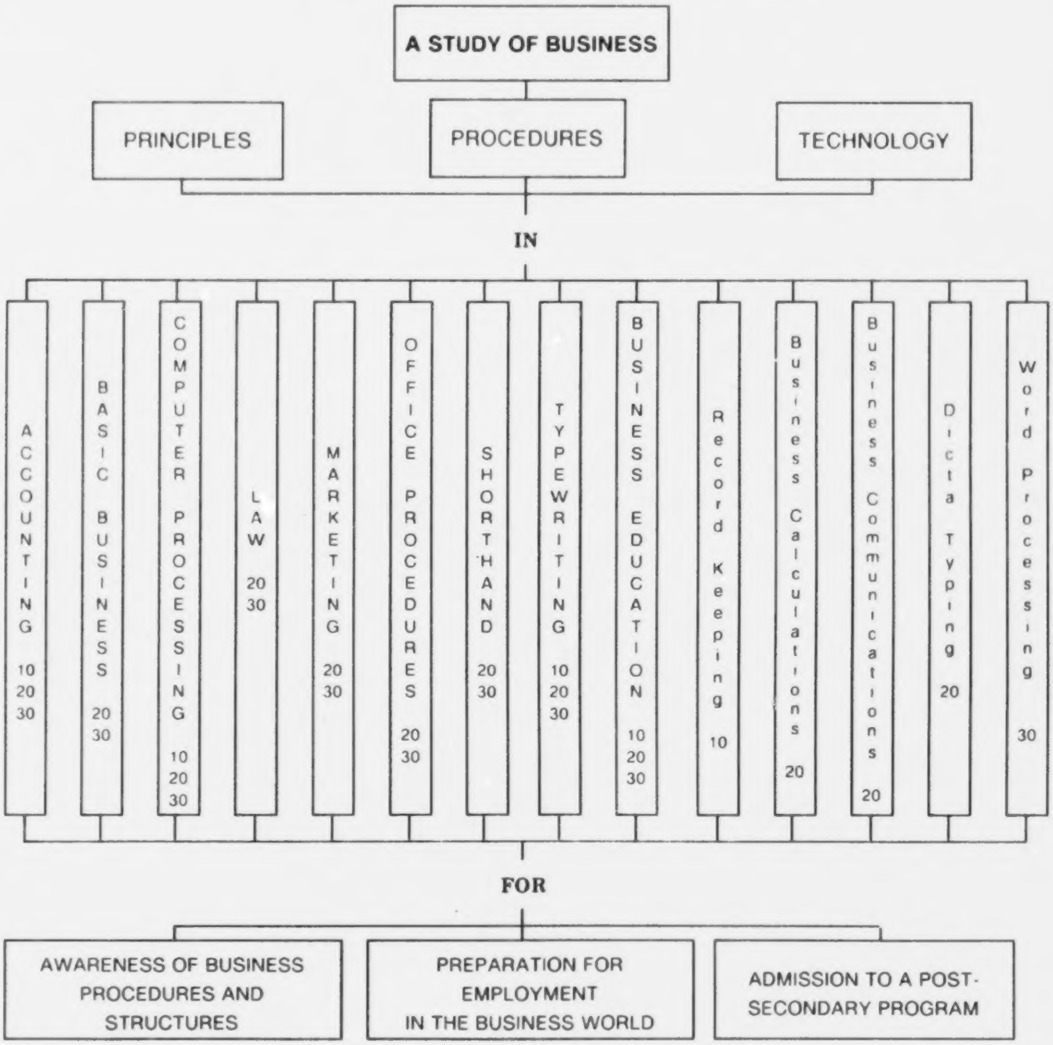
B. GOALS AND OBJECTIVES

The business education curriculum provides education ABOUT business for ALL students so that they become informed citizens, and education FOR business for SOME students in order that they become effective workers. More specifically, the purpose of the program is:

1. To provide a meaningful study of the business environment, including the ideas, people and technology of business.
2. To provide for the development and acquisition of the business knowledge and skills that will be most useful and durable in a rapidly changing society.

3. To provide an opportunity for students to elect and pursue individual interests and specialization in the study of the business environment.
4. To develop acceptable communication and interpersonal skills.
5. To develop the thinking strategies and problem-solving abilities of students.
6. To provide an opportunity for students to relate and apply learning in business education to other areas of study.
7. To expose students to the business environment for the purpose of acquiring information, gaining experience and testing ideas and hypotheses.
8. To provide for a general understanding of business and the development of skills for personal use.
9. To provide background skills and knowledge for specialization in business and/or admission to post-secondary programs.
10. To prepare for job entry upon completion of senior high school and for future advancement in business.

SCHEMATIC OVERVIEW OF PROGRAM


A STUDY OF BUSINESS
PRINCIPLES
PROCEDURES
TECHNOLOGY
IN
ACCOUNTING 10 20 30
BASIC BUSINESS 20 30
COMPUTER PROCESSING 10 20 30
LAW 20 30
MARKETING 20 30
OFFICE PROCEDURES 20 30
SHORTHAND 20 30
TYPEWRITING 10 20 30
BUSINESS EDUCATION 10 20 30
Record Keeping 10
Business Calculations 20
Business Communications 20
Dicta Typing 20
Word Processing 30
FOR
AWARENESS OF BUSINESS PROCEDURES AND STRUCTURES
PREPARATION FOR EMPLOYMENT IN THE BUSINESS WORLD
ADMISSION TO A POST-SECONDARY PROGRAM

Guidelines for Structuring Business Education Courses

General Guidelines

The structure of the business education program allows a school to design courses to meet the specific needs of the students in that school. The content has been arranged in sequenced and unsequenced modules organized under the following eight main subject areas or strands.

1. Accounting 10–20–30
2. Basic Business 20–30
3. Computer Processing 10–20–30
4. Law 20–30
5. Marketing 20–30
6. Office Procedures 20–30
7. Shorthand 20–30
8. Typewriting 10–20–30

Subject to the constraints outlined in the curriculum guides, modules are to be formatted into 3- or 5-credit courses within each strand. Schools or school jurisdictions should designate three modules for a 3-credit course and five modules for a 5-credit course. The *Optional* strand modules may be used to enhance the subject area strands or, alternatively, be combined to form 3-credit courses.

The program to be offered should be established through consultation with teaching, guidance and administrative personnel. In order to promote consistency between grade levels and establish appropriate standards for student evaluation, jurisdictions may wish to monitor the selection of modules. Care should be taken to ensure that students' programs do not repeat modules.

Course sequences are outlined in the *Guide to Education: Senior High School Handbook.* For further information regarding module sequences and equipment requirements, refer to the specific modules within the curriculum guides and/or the *Business Education Manual for Administrators, Counsellors and Teachers.*

Business Education 10–20–30

In addition, or as an alternative to the courses designated under the subject strands (e.g., Typewriting 20, Law 30) 3, 5 or 10 credits may be offered in each of Business Education 10–20–30 to a maximum of 30 credits. Business Education 10–20–30 courses are created by selecting a number of modules from the eight main subject strands as well as from the *Optional* strand. Elective modules within the subject strands may be selected only if students have taken the core modules identified in the strands. Business Education 10, 20 and 30 courses are sequential.

Mini Courses

As an alternative to using the modules in the *Optional* strand to enhance subject area courses, modules from the *Optional* strand may be grouped together to form 3-credit courses as follows:

Record Keeping 10

1. Record Keeping 1
2. Record Keeping 2
3. Record Keeping 3

Business Calculations 20

4. Business Calculations 1
5. Business Calculations 2
6. Business Calculations 3

Business Communications 20

7. Business Communications – Development
8. Business Communications – Practice
9. Business Communications – Integration

Dicta Typing 20

12. Dicta Typing 1
13. Dicta Typing 2
16. Business Simulation

Word Processing 30

14. Word Processing 1
15. Word Processing 2
16. Business Simulation

Enhancement: Use of *Optional* Modules

A subject strand course may be enhanced by including a module or modules from the *Optional* strand that support the objective for a particular course. Inclusion of modules from subject strands other than *Optional* is not permissible. Not more than one *Optional* module may be included at each grade level in a 3-credit course, and not more than two optional modules may be included at each grade level in a 5-credit course. The business research and business simulation modules may, however, be used once in each subject strand, provided that the topic is not duplicated. The *Optional* strand modules are:

1. Record Keeping 1
2. Record Keeping 2
3. Record Keeping 3
4. Business Calculations 1
5. Business Calculations 2
6. Business Calculations 3
7. Business Communications - Development
8. Business Communications - Practice
9. Business Communications - Integration
10. Business Research Project
11. Goal Setting and Career Development
12. Dicta Typing 1
13. Dicta Typing 2
14. Word Processing 1
15. Word Processing 2
16. Business Simulation

ACCOUNTING
10-20-30

INTRODUCTION

The accounting program provides an opportunity for all students to develop an understanding of basic accounting concepts and procedures. At the introductory level the students will learn the mechanics of the accounting cycle. Advanced study will enhance the basic skills and provide competencies that prepare the student for employment or further study beyond high school. Students will study the accounting cycle of a small business and expand their knowledge to include specialized areas within accounting.

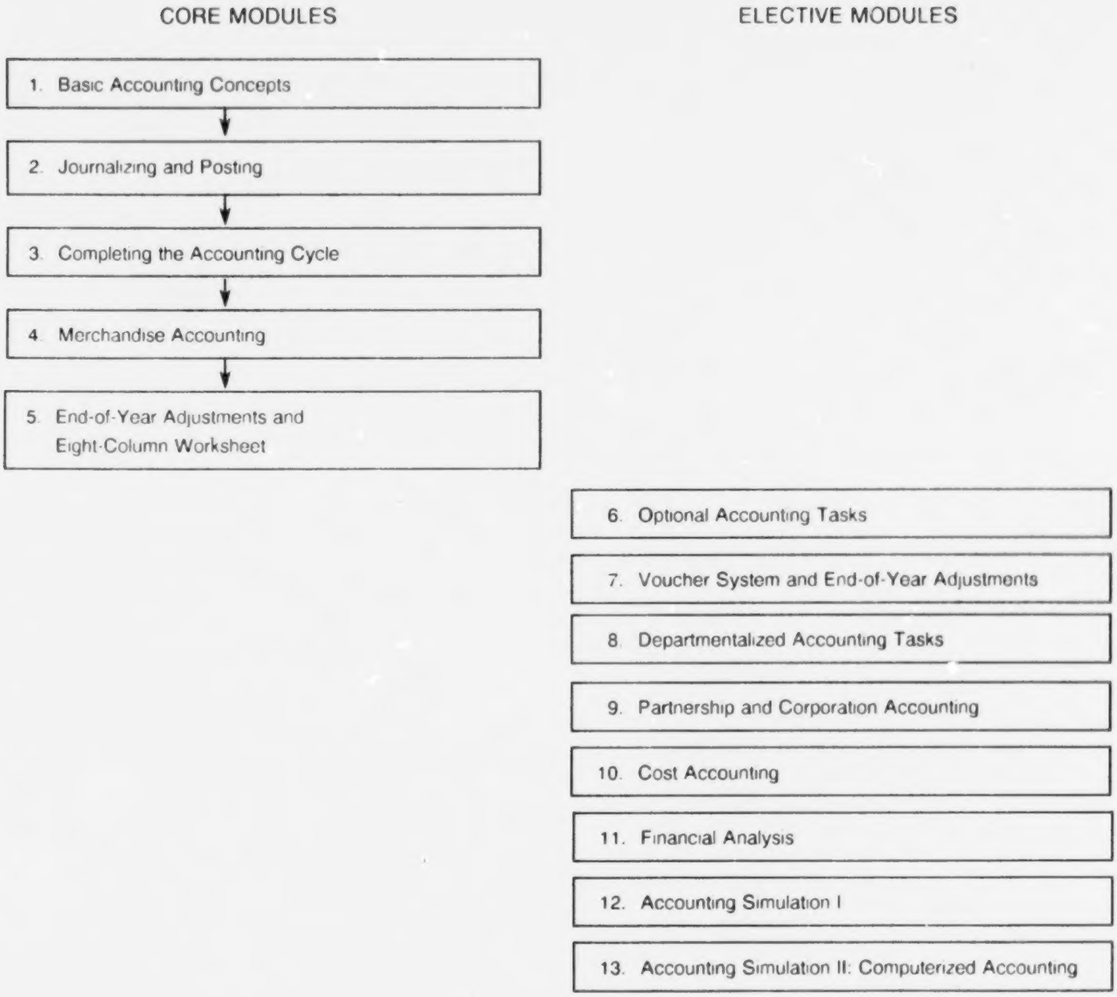
Computers reflect present practices within accounting offices, enhance employment opportunities, and allow students more opportunity to analyze and interpret financial documents. As a result, the use of computers is recommended in the accounting strand.

OBJECTIVES

The student will:

1. Learn how the financial position of an individual business is determined.
2. Accurately journalize the various daily transactions.
3. Understand the importance of maintaining accurate accounting records.
4. Be able to use relevant terminology appropriately.
5. Complete financial documents accurately and neatly.
6. Use the computer in performing accounting functions.
7. Develop decision-making skills in the preparation, analysis and interpretation of financial statements.
8. Develop basic understanding of accounting procedures applicable to single proprietorships, partnerships and corporations.
9. Demonstrate knowledge of acceptable cost accounting procedures.
10. Investigate careers in the field of accounting.

FLOW CHART OF MODULES


CORE MODULES
ELECTIVE MODULES
1. Basic Accounting Concepts
2. Journalizing and Posting
3. Completing the Accounting Cycle
4. Merchandise Accounting
5. End-of-Year Adjustments and Eight-Column Worksheet
6. Optional Accounting Tasks
7. Voucher System and End-of-Year Adjustments
8. Departmentalized Accounting Tasks
9. Partnership and Corporation Accounting
10. Cost Accounting
11. Financial Analysis
12. Accounting Simulation I
13. Accounting Simulation II: Computerized Accounting

Notes on Course Implementation

The accounting subject strand is composed of thirteen modules, five of which are core and eight of which are elective. The core modules are prerequisite to the elective modules. Modules 1 to 5 are sequential. The elective modules are not sequential.

Courses of 3 or 5 credits may be developed in Accounting 10 and 20 by selecting three or five modules.

Accounting 30 may be offered only for 5 credits. Students must have access to computers and suitable software, particularly in the 20- or 30-level courses. Printing calculators should also be available.

Refer to individual modules for further information regarding equipment requirements and prerequisites.

The integration of the work study component of the work experience (cooperative education) program is encouraged.

CONTENT

Module 1	**Basic Accounting Concepts**
Purpose	*To provide the student with the opportunity to learn how the financial position of a business is determined and how daily accounting records are maintained.*
Topics	terminology; balance sheet; opening entry; posting; analyzing transactions; introductory journalizing.
Module 2	**Journalizing and Posting**
Purpose	*To expand the knowledge of the accounting cycle, including the preparation of a worksheet.*
Topics	terminology; journalizing; posting; trial balance; worksheet.
Module 3	**Completing the Accounting Cycle**
Purpose	*To study the concluding procedures in the accounting cycle; to prepare bank reconciliation statements and to understand the operation of the petty cash fund.*
Topics	financial statements; closing entries; post-closing trial balance; basic banking services; petty cash.
Module 4	**Merchandise Accounting**
Purpose	*To introduce the student to the accounting procedures associated with the purchase and sale of merchandise.*
Topics	terminology; synoptic journal; special journals; subsidiary ledgers; closing the ledger.
Module 5	**End-of-Year Adjustments and Eight-Column Worksheet**
Purpose	*To prepare the worksheet, including adjustments that organize the information required for the creation of financial statements at the end of a fiscal period.*
Topics	terminology; adjusting entries; inventory; eight-column worksheet; advanced financial statements; closing entries; post-closing trial balance.
Module 6	**Optional Accounting Tasks**
Purpose	*To provide an opportunity for the student to integrate accounting practices through the completion of at least two of the following: a practice set; payroll procedures; advanced bank reconciliation procedures; personal income tax; computer applications within a business office; careers.*
Topics	practice set; payroll procedures; advanced bank reconciliation procedures; personal income tax; computer applications; careers.
Module 7	**Voucher System and End-of-Year Adjustments**
Purpose	*To understand the voucher system, budgeting and end-of-year adjustments.*
Topics	terminology; voucher system; budgeting; end-of-year adjustments.

Module 8 Departmentalized Accounting Tasks

Purpose *To record transactions in special journals and prepare departmental statements.*

Topics terminology; special business transactions; calculating inventory; interim departmental statement; payroll.

Module 9 Partnership and Corporation Accounting

Purpose *To study procedures for recording financial data for partnerships and corporations.*

Topics terminology; partnership; corporation.

Module 10 Cost Accounting

Purpose *To study the procedures used in cost accounting.*

Topics terminology; worksheets; departmental margin statements; manufacturing costs; financial statements.

Module 11 Financial Analysis

Purpose *To examine the fundamental tools used to analyze the financial performance of a business.*

Topics terminology; bad debts; depreciation; projection of profit; financial analysis; forecasting; working capital.

Module 12 Accounting Simulation I

Purpose *To provide the student with a realistic accounting experience.*

Topics recording transactions; preparing statements.

Module 13 Accounting Simulation II: Computerized Accounting

Purpose *To provide an opportunity to simulate actual business activities using computer technology.*

Topics simulating accounting procedures.

BASIC LEARNING RESOURCES

AccPac Plus General Ledger & Financial Reporter. Version 5.0, IBM. Single User Package. Computer Assoc. Int'l, 1988.

ISBN 55990

AccPac Plus General Ledger & Financial Reporter. Version 5.0, IBM. Lanpak Network. Computer Assoc. Int'l, 1988.

ISBN 55991

AccPac Plus Windowing System Manager. Version 5.0, IBM. Computer Assoc. Int'l, 1988.

ISBN 55992

Integrated Accounting. Version 3.23, IBM. Bedford, 1988.

ISBN 55889

Kaluza, H. J. *Accounting: A Systems Approach*. Second edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1985. [Modules 1–6]

ISBN 0075489546

Kaluza, H. J. *Elements of Accounting: A Senior Course*. Second edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1979. [Modules 7–11]

ISBN 007082696X

Landry, P. *Century 21 Accounting: Advanced Course*. Canadian edition. Agincourt, ON: Gage Educational Publishing Company, 1979. [Modules 7–11]

ISBN 0771501846

Pansegrau, G. E. *Century 21 Accounting: Introductory Course*. Second edition. Scarborough, ON: Nelson Canada, 1987.

ISBN 0771501722

Syme, G. E. *Accounting 1*. Third edition. Scarborough, ON: Prentice-Hall Canada Inc., 1982. [Modules 1–11]

ISBN 0130016934

The courses in this section will be revised over the next few years. Information regarding basic learning resources may not be complete or current. Consult your Learning Resources Distributing Centre's *Buyers Guide* for current information.

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BASIC BUSINESS 20-30

INTRODUCTION

The basic business program at the high school level is designed to help the student develop sound personal skills in financial planning, decision making and goal setting.

Students will be aware of the wide range of support and restrictions that influence management decisions, and will apply these skills to situations appropriate to personal career planning.

OBJECTIVES

The student will:

1. Develop knowledge and understanding of the structure and principles that control business.
2. Investigate the interrelationship of business systems within the local, national and international scene.
3. Develop understanding of the fundamental principles that affect consumer choice.
4. Examine the influence government has on consumers and businesses.
5. Develop understanding of the basic economic concepts and their relationship to the business environment and the consumer citizen.
6. Develop understanding of the fundamental principles and factors related to success in small business.
7. Develop understanding and skill in successful personal financial management.
8. Investigate and evaluate the sources of consumer credit.
9. Examine management techniques.
10. Investigate and analyze the various types of insurance.

FLOW CHART OF MODULES

BASIC BUSINESS 20
CORE

1. Canadian Business
2. Consumer Credit
3. Insurance

BASIC BUSINESS 30
CORE

4. Economic Concepts
5. Small Business Management I
6. Management Techniques

BASIC BUSINESS 20–30
ELECTIVE

7. Personal Financial Planning
8. Small Business Management II (Simulation)

Notes on Course Implementation

The basic business subject strand is composed of eight modules. Basic Business 20 may be offered for 3 or 5 credits. Basic Business 30 may also be offered for 3 or 5 credits.

Three modules are designated as core for the 20-level and three are designated as core for the 30-level. Modules are not sequential, except for Module 5 which is prerequisite to Module 8.

Additional modules to form 5-credit courses may be selected from the two elective modules or from the *Optional* strand. Modules 1, 2 and 7 are designed to expand consumer awareness within a business context. Modules 3, 4, 5, 6 and 8 are designed to build basic business management skills.

If the objective of Basic Business 20 (3 credits) in your school is to build consumer awareness rather than provide a general overview of business, the CORE modules may be *redefined* as follows: Module 7 "Personal Financial Planning" may replace Module 3 "Insurance". This arrangement has been approved for a three-year period. NOTE: The consumer-related content in Basic Business 20–30 is expected to be modified when the senior high school Career and Life Management (CALM) program is implemented.

Optional modules that are recommended for use within the course configurations are:

Module No. 5.	Business Calculations 2
Module No. 8.	Business Communications – Practice
Module No. 9.	Business Communications – Integration
Module No. 10.	Business Research Project
Module No. 11.	Goal Setting and Career Development
Module No. 16.	Business Simulation

Integration of work study and work experience (cooperative education) programs is encouraged.

Access to microcomputers and suitable software is recommended. Refer to individual modules for further information regarding equipment requirements and prerequisites.

CONTENT

Module 1	**Canadian Business**
Purpose	*To introduce the student to the role of the consumer within a free enterprise system.*
Topics	free enterprise system; business functions; role of government; role of consumer.
Module 2	**Consumer Credit**
Purpose	*To investigate the role, costs and sources of consumer credit.*
Topics	role of credit; cost of credit; sources of credit; use of credit; misuse of credit.
Module 3	**Insurance**
Purpose	*To make sound business decisions about personal insurance needs.*
Topics	types of insurance; types of risks; insurance policies; governing the insurance industry; insurance in the workplace; careers in insurance.
Module 4	**Economic Concepts**
Purpose	*To introduce the basic economic concepts that determine production, distribution and pricing.*
Topics	economic systems; market system; government involvement; supply of money; fiscal and monetary policy; income distribution.
Module 5	**Small Business Management I**
Purpose	*To examine opportunities and to identify management strategies for small business.*
Topics	types of business; business opportunities; business management; finance; personnel; production; marketing.
Module 6	**Management Techniques**
Purpose	*To understand and apply business management techniques.*
Topics	management skills; management functions (controlling, planning, directing, organizing); managing human resources; time management.
Module 7	**Personal Financial Planning**
Purpose	*To explore the activities and considerations required to plan and successfully manage personal finances.*
Topics	budgeting; banking; savings and investment; income tax; careers.
Module 8	**Small Business Management II** (Simulation)
Purpose	*To examine basic management processes and activities involved in managing a small business.*
Topics	starting a business; managing a business; succeeding in business.

BASIC LEARNING RESOURCES

Murphy, T. G. *The World of Business: A Canadian Profile.* First edition. Toronto, ON: John Wiley & Sons Canada Limited, 1978. [Modules 1-5, 7]

ISBN 0471997943

Murphy, T. G. *The World of Business: A Canadian Profile.* Second edition. Toronto, ON: John Wiley & Sons Canada Limited, 1987.

ISBN 0471797081

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COMPUTER PROCESSING 10-20-30

INTRODUCTION

Computer processing is designed to provide all students with an opportunity to study the impact of the computer on the individual and society. Programming and software manipulation should provide the student with an opportunity to direct the power of the computer to solve simple to complex problems.

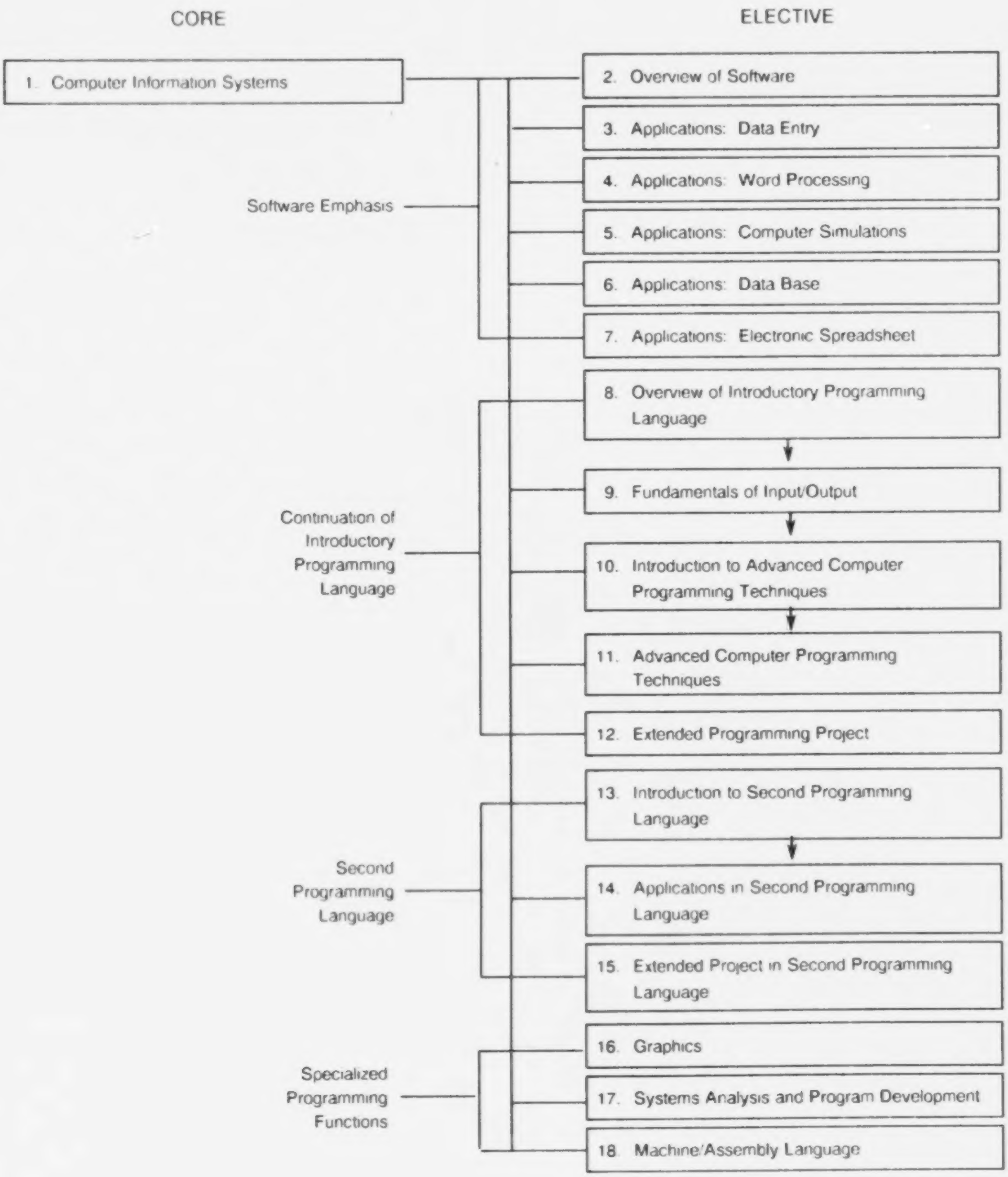
The skills and knowledge developed will be applicable to all disciplines. Students have the opportunity to develop basic skills for the personal use of the computer, skills that support their career plans, or skills that provide suitable background for further post-secondary study.

OBJECTIVES

The student will:

1. Examine the fundamental terminology, equipment procedures and concepts used in a computerized environment.
2. Develop the ability to use a computer to help solve problems, manipulate data and draw inferences from data.
3. Examine the potential of computers in personal and professional activities.
4. Become adept at the manipulation of hardware and software in preparation for career or personal use.
5. Develop expertise in efficient programming techniques and program design.
6. Become aware of the potential for computer-based communications.
7. Recognize the impact of computers on productivity and career paths.

FLOW CHART OF MODULES


CORE
ELECTIVE
1. Computer Information Systems
2. Overview of Software
3. Applications: Data Entry
4. Applications: Word Processing
5. Applications: Computer Simulations
6. Applications: Data Base
7. Applications: Electronic Spreadsheet
Software Emphasis
8. Overview of Introductory Programming Language
9. Fundamentals of Input/Output
10. Introduction to Advanced Computer Programming Techniques
11. Advanced Computer Programming Techniques
12. Extended Programming Project
Continuation of Introductory Programming Language
13. Introduction to Second Programming Language
14. Applications in Second Programming Language
15. Extended Project in Second Programming Language
Second Programming Language
16. Graphics
17. Systems Analysis and Program Development
18. Machine/Assembly Language
Specialized Programming Functions

Notes on Course Implementation

Although Computer Processing 10-20-30 courses are in the business education program, the core and elective components form a foundation of basic computer skills and understandings that may be extended into other subject areas.

Many of the applications included in the program complement topics in other subject areas such as graphics (mathematics), simulations (science) and word processing (language arts).

Computer processing has eighteen modules (one core and seventeen elective). Courses of 3 or 5 credits (three or five modules) may be developed at the 10, 20 and 30 levels to a maximum of 15 credits. Courses will need to be scheduled in an appropriately equipped computer laboratory. The recommended minimum ratio is two students to one machine.

Modules 2-7 deal with software applications. Module 8 may be used to review introductory programming concepts introduced in other courses. Programming is continued in Modules 9-12, and second language programming in Modules 13-15. Modules 16, 17 and 18 introduce specialized aspects of computer processing.

Modules from the *Optional* strand may be integrated into computer processing, if not used previously within a student's program. It is recommended that a choice be made from the following *Optional* modules:

Module No. 10.	Business Research Project
Module No. 11.	Goal Setting and Career Development
Module No. 14.	Word Processing 1
Module No. 16.	Business Simulation

Some modules may have prerequisites and equipment requirements. Computer Literacy 10 may be used as an alternative prerequisite to Computer Processing 20. Refer to individual modules for further information.

CONTENT

Module 1	**Computer Information Systems**
Purpose	*To make the student aware of the terminology and concepts applied to information processing systems.*
Topics	evolution of data processing; terminology; characteristics of information systems; information processing environment; data communications; issues and trends.
Module 2	**Overview of Software**
Purpose	*To demonstrate and use commercially prepared software packages.*
Topics	terminology; legal constraints of use of software; proper handling techniques; types of software; software applications; software use procedures.
Module 3	**Applications: Data Entry**
Purpose	*To enable the student to develop skill in coding, keying data, manipulating data and generating reports.*
Topics	data entry functions; coding data; data entry; generating reports.
Module 4	**Applications: Word Processing**
Purpose	*To enable the student to learn the procedures of, and develop skill in, word processing.*
Topics	introduction to information processing; software commands; input/output.

Module 5 **Applications: Computer Simulations**

Purpose *To enable the student to use the computer and appropriate software in problem solving.*

Topics define simulation; focus on topic(s) within subject area, or overview topics from several content areas or develop an approved topic of particular interest; evaluate the simulation.

Module 6 **Applications: Data Base**

Purpose *To develop an understanding of, and skill in, manipulation of data base information systems.*

Topics management of information; parts of data bases; classification of data bases; use of data base management software; data integration; data transfer; telecommunications; commercial data bases.

Module 7 **Applications: Electronic Spreadsheet**

Purpose *To develop an understanding of, and skill in, the use of electronic spreadsheet systems.*

Topics management of information; use of spreadsheets; spreadsheet applications.

Module 8 **Overview of Introductory Programming Language**

Purpose *To reinforce problem-solving techniques through development of structured programming skills.*

Topics terminology; hardware; software; programming techniques; programming applications.

Module 9 **Fundamentals of Input/Output**

Purpose *To increase understanding of types of processing communication networks and to develop additional programming skills, using arrays and functions.*

Topics input/output processes; processing of data; arrays; library and operating system functions; programming applications; data communications.

Module 10 **Introduction to Advanced Computer Programming Techniques**

Purpose *To continue the development of programming techniques and to refine skill in graphics programming.*

Topics numbering systems; "professional" programming techniques; subroutines; multiple dimension arrays; introduction to graphics.

Module 11 **Advanced Computer Programming Techniques**

Purpose *To develop advanced computer programming skill through the study of file manipulation techniques.*

Topics types of files; file handling procedures.

Module 12 **Extended Programming Project**

Purpose *To allow the student the opportunity to increase programming skills through a project.*

Topics develop a plan; prepare a program; hardware and software requirements; evaluate the program.

Module 13 Introduction to Second Programming Language

Purpose *To provide the student with an opportunity to study a second (high-level) language.*

Topics comparison of languages; hardware/firmware specifications; language syntax; applications of the language; modification of programs; output.

Module 14 Applications in Second Programming Language

Purpose *To encourage the student to consolidate understanding of the syntax of the second (high-level) programming language by applying the language to a problem-solving situation.*

Topics application of language; modify and debug programs; language syntax; program documentation; format output.

Module 15 Extended Project in Second Programming Language

Purpose *To allow the student to demonstrate second language programming skill.*

Topics develop a plan; document the process; program applications hardware and software requirements; evaluate the program.

Module 16 Graphics

Purpose *To provide an opportunity to enrich programming skills through the development of an ability to integrate graphics and sound into programs.*

Topics programming applications; graphics modes; animation; colour commands; sound commands.

Module 17 Systems Analysis and Program Development

Purpose *To understand the factors involved in systems analysis and to develop the skills necessary to assess and solve a complex problem through the development of a computer program using a systematic approach.*

Topics systems problem solving; systems investigation; systems analysis; systems design; programming techniques; program documentation; systems implementation; systems evaluation and maintenance.

Module 18 Machine/Assembly Language

Purpose *To enable the student to use the efficiency of the machine/assembly language commands.*

Topics comparison of language; hardware configuration; memory map; storage location; assembly language syntax; program modification; program applications.

BASIC LEARNING RESOURCES

Appleworks. Version 2.1 (5 1/4"). Claris, 1988.

ISBN S5862

Appleworks. Version 2.1 (3 1/2"). Claris, 1988.

ISBN S5863

Appleworks. Version 2.1. Tutorial Manual. Claris, 1988.

ISBN S5864

Appleworks. Version 2.1. Reference Manual and Card. Claris, 1988.

ISBN S5865

Appleworks NETWORK. Version 2.1 (5 1/4"). Claris, 1988.

ISBN S5877

Appleworks NETWORK. Version 2.1 (3 1/2"). Claris, 1988.

ISBN S5878

Braun, P. *Computer Projects: APPLE*. California: Pacific Learning Institute, 1983. [Modules 8-11]

ISBN S0023

Clark, J. *Structured Basic*. Scarborough, ON: Nelson Canada, 1983. [Student Text]

ISBN 0538108002

Mandell, S. *Computer Science with Pascal for Advanced Placement Students*. St. Paul, MN: West Publishing, 1985.

ISBN 0314896929

McRitchie, M. *Programming in BASIC: A Complete Course*. Toronto, ON: Holt, Rinehart and Winston of Canada Limited, 1982. [Modules 8-10]

ISBN 0039201481

Sanders, D. *Computers Today*. Second edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1985.

ISBN 0070547017

Shelly, Gary B. and Thomas J. Cashman. *Introduction to Computers and Data Processing*. Scarborough, ON: Nelson Canada, 1980. [Modules 1, 8-10, 17]

ISBN 0882361155

The courses in this section will be revised over the next few years. Information regarding basic learning resources may not be complete or current. Consult your Learning Resources Distributing Centre's *Buyers Guide* for current information.

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LAW 20-30

INTRODUCTION

Law 20–30 is designed to promote the student's appreciation and understanding of the legal system and relevant laws that regulate personal interactions and business-related activities. Through analysis of actual cases, the student will develop analytical reasoning skills and an awareness of the legal issues and legal procedures with which a citizen and employee must deal.

OBJECTIVES

The student will:

1. Develop knowledge and understanding of the growth of our legal system and the courts that administer its principles.
2. Develop understanding of the fundamental principles, terminology and structure of civil and criminal law.
3. Recognize the rights and responsibilities of the individual and the relationship that these have with society.
4. Develop tolerance and maturity in the critical analysis of our legal system.
5. Identify and use opportunities to apply logical thinking and good judgment in applying legal principles to business and personal problems.
6. Identify the rights and responsibilities of the parties to various types of contracts.
7. Investigate and apply the laws governing common consumer transactions.
8. Examine laws relating to employment and the bargaining process.
9. Study the laws related to the family unit.
10. Study the laws related to the rights and responsibilities of renting or owning real property.

FLOW CHART OF MODULES

LAW 20
CORE

1. Nature of Law and the Civil Law System
2. Contract Law
3. Family Law

LAW 30
CORE

4. Basic Rights and Responsibilities
5. Labour Law
6. Property Law

LAW 20–30
ELECTIVE

7. Criminal Justice System
8. Consumer Law
9. Tort Law
10. Controversial Issues

Notes on Course Implementation

The law subject strand is composed of ten modules. Law 20 may be offered for 3 or 5 credits. Law 30 may be offered for 3 or 5 credits.

Three modules are designated as core for the 20-level, three are designated as core for the 30-level. Additional modules to form 5-credit courses may be selected from the elective law modules or from the *Optional* strand.

Modules from the *Optional* strand that are recommended for integration into the law program are:

Module No. 10. Business Research Project
Module No. 16. Business Simulation

Refer to individual modules for further information regarding equipment requirements and prerequisites.

CONTENT

Module 1	**Nature of Law and the Civil Law System**
Purpose	*To study and evaluate the foundations of the Canadian legal system.*
Topics	origin of law; rule of law; classification of law; changing Canadian law; Canadian courts; remedies; legal procedure.
Module 2	**Contract Law**
Purpose	*To identify the rights and responsibilities of the parties to various types of contracts.*
Topics	nature of contracts; offer and acceptance; consideration; legal capacity; genuineness of consent; legal purpose; assignment of rights and obligations; limitation of actions; discharge of contract.
Module 3	**Family Law**
Purpose	*To study the laws related to the family unit, including the role of children and distribution of estate property.*
Topics	the family unit in law; marriage; separation/divorce; legal rights of children; wills and estates.
Module 4	**Basic Rights and Responsibilities**
Purpose	*To examine an individual's basic legal rights and to assess the responsibilities these rights impose on the individual.*
Topics	rights and responsibilities; *Canadian Charter of Rights and Freedoms*; provincial human rights legislation; student rights; remedies; law enforcement.
Module 5	**Labour Law**
Purpose	*To examine the basic laws relating to employment, union organizations and the collective bargaining process.*
Topics	rights and responsibilities; labour legislation; employment contracts; unions.
Module 6	**Property Law**
Purpose	*To study the laws relating to renting or owning real property.*
Topics	ownership; rental agreement; buying, building and selling real property; issues concerning real property.
Module 7	**Criminal Justice System**
Purpose	*To examine the nature of a crime and the criminal justice system.*
Topics	criminal justice system; the nature of a crime; police; specific offences; criminal trials; defences; punishment; appeals; correctional institutions; parole; aftercare agencies; youth and crime.
Module 8	**Consumer Law**
Purpose	*To investigate laws governing consumer transactions.*
Topics	protection of consumers; bailments; buying and selling; forms of security; regulatory laws; helping agencies.

Module 9	**Tort Law**
Purpose	*To develop an understanding of the fundamental principles of tort law.*
Topics	concept of tort; intentional torts (persons, goods, land); unintentional torts; remedies.
Module 10	**Controversial Issues**
Purpose	*To review various contemporary, controversial legal issues that affect the individual.*
Topics	idea or subject; historical perspective; current law; implications for society; topics.

BASIC LEARNING RESOURCES

Jennings, W. *Canadian Law*. Fourth edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1986.

ISBN 0075489902

Liepner, M. *Applying the Law*. Second edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1985.

ISBN 0075488965

Murphy, T. *All About Law: Exploring the Canadian Legal System*. Second edition. Rexdale, ON: John Wiley & Sons Canada Limited, 1984.

ISBN 0471797995

Spetz, S. *Take Notice: An Introduction to Canadian Law*. Second edition. Toronto, ON: Copp Clark Pitman Ltd., 1984.

ISBN 0773043144

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MARKETING 20-30

INTRODUCTION

Individuals in our society are surrounded by a complicated marketplace that uses high technology and well-trained personnel to satisfy the wants and needs of consumers. Marketing at the high school level provides an opportunity for students to develop knowledge and skills relating to the people, products and procedures that make up the world of marketing.

OBJECTIVES

1. To introduce the marketing process, and to study the various marketing activities found within the Canadian economy.
2. To acquire the skills and techniques of marketing research, and to apply those skills and techniques to decision making in the marketplace.
3. To examine and evaluate the factors related to transportation and distribution of goods and services in Canada, and to relate these influences to the organization of a retail outlet.
4. To examine the role of profit, and to evaluate a wide variety of pricing policies, strategies and techniques used in cash control in the marketplace.
5. To investigate and analyze the procedures involved in the purchase and inventory of goods.
6. To examine the purposes and types of advertising, media alternatives and the skills involved in the creation of an effective campaign.
7. To study the role of selling in the marketing process, and to analyze and apply a variety of sales techniques.
8. To learn and apply the techniques of proper visual display.

FLOW CHART OF MODULES

MARKETING 20
CORE

1. World of Marketing
2. Advertising and Sales Promotion
3. Distribution of Goods and Services

MARKETING 30
CORE

4. Marketing Research
5. Pricing and Financial Activities
6. Selling

MARKETING 20–30
ELECTIVE

7. Display
8. Purchasing and Controlling Merchandise

Notes on Course Implementation

The marketing subject strand is composed of eight modules. Marketing 20 may be offered for 3 or 5 credits. Marketing 30 may also be offered for 3 or 5 credits.

Three modules are designated as core for the 20-level and three are designated as core for the 30-level. The modules are not sequential. Additional modules to form a 5-credit course may be selected from the elective modules or from the *Optional* strand.

Modules from the *Optional* strand that are recommended for integration into the marketing program are:

Module No.	6.	Business Calculations 3
Module No.	9.	Business Communications – Integration
Module No.	10.	Business Research Project
Module No.	11.	Goal Setting and Career Development

It is recommended that the work study component of work experience be integrated into the marketing program. Also, the work experience program could be planned in conjunction with Marketing 20 or 30.

Access to microcomputers and suitable software is recommended. A lab would provide an opportunity for students to apply the skills and concepts in a realistic setting. Refer to individual modules for further information regarding equipment requirements and prerequisites.

CONTENT

Module 1	**World of Marketing**
Purpose	*To make the student aware of the marketing process, and to encourage the study of the various marketing activities found within the Canadian economy.*
Topics	scope of marketing; history of marketing in Canada; economic systems; role of profit; Canadian market demography; marketing mix; role of the Canadian government.
Module 2	**Advertising and Sales Promotion**
Purpose	*To examine the purposes and types of advertising, media alternatives and considerations involved in the creation of an effective advertising campaign.*
Topics	sales promotion activities; nature of advertising; advertising media; advertising campaign; packaging and labelling.
Module 3	**Distribution of Goods and Services**
Purpose	*To examine and evaluate the factors related to distribution of goods in Canada, and to relate these influences to the organization of a retail outlet.*
Topics	channels of distribution; transportation; imports and exports; types of Canadian retail stores; store image and design; store location; store layout.
Module 4	**Marketing Research**
Purpose	*To acquire the techniques of marketing analysis and research, and to apply these skills to decision making in the marketplace.*
Topics	market research; Canadian market environment; types of marketing research; conducting market research.
Module 5	**Pricing and Financial Activities**
Purpose	*To examine the role of profit, and to evaluate a wide variety of pricing policies and the strategies and techniques used in cash control in the marketplace.*
Topics	financing a business; role of profit; demand-based pricing; markup pricing; pricing policies; store operations; credit and collection; stock shortage and theft; cash register operation.
Module 6	**Selling**
Purpose	*To study the role of selling in the marketing process, and to analyze and apply various sales techniques.*
Topics	role of salesperson; special types of selling; preparation for selling; making the sale; sales presentation.
Module 7	**Display**
Purpose	*To learn the techniques of effective visual display.*
Topics	principles of display; types of display; display cycles; creating a display.

Module 8	**Purchasing and Controlling Merchandise**
Purpose	*To investigate and analyze the procedures involved in the purchase and maintenance of inventory.*
Topics	characteristics of consumers; fashion cycle; maintaining contact with suppliers; ordering merchandise; receiving and checking goods; inventory procedures; merchandise turnover.

BASIC LEARNING RESOURCES

Taller, T. *Introductory Marketing: A Retail Perspective.* First edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1977.

ISBN 0070825645

Taller, T. *Marketing: A Canadian Perspective.* Scarborough, ON: McGraw-Hill Ryerson Limited, 1979.

ISBN 0070829403

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OFFICE PROCEDURES 20-30

INTRODUCTION

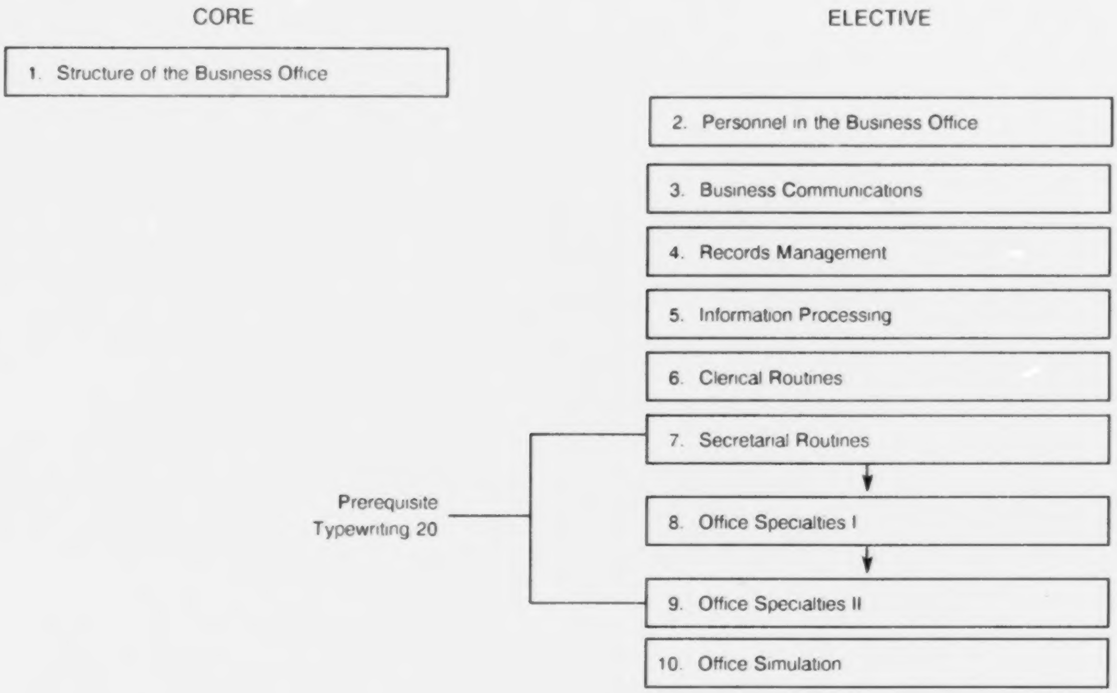
Office procedures provides students with the opportunity to study the structure, procedures and technology common to modern Canadian business offices. A major focus of the course is the integration of skills, procedures and attitudes within an environment that simulates a modern office. The Office Procedures 20–30 program encourages the development of vocational-level competencies suitable for students interested in clerical or secretarial occupations.

OBJECTIVES

The student will:

1. Examine the organization, functions and procedures common to a business office.
2. Examine the various career paths, benefits and responsibilities of personnel within a business office.
3. Become familiar with the various methods of communication used in a modern business office.
4. Apply current procedures for the storage, retention, reproduction and retrieval of recorded information.
5. Examine the routines related to the processing of words and data through the study of procedures, equipment and personnel.
6. Demonstrate the clerical routines that support the efficient handling of goods and services in a modern office.
7. Demonstrate efficient secretarial skills and procedures that support the activities of management.
8. Use the terminology, documentation and procedures prevalent in a selected secretarial specialization.
9. Integrate the basic skills, specialized knowledge and human relations skills developed throughout the business program, within a simulated or actual business environment.

FLOW CHART OF MODULES


CORE
ELECTIVE
1. Structure of the Business Office
2. Personnel in the Business Office
3. Business Communications
4. Records Management
5. Information Processing
6. Clerical Routines
7. Secretarial Routines
8. Office Specialties I
9. Office Specialties II
10. Office Simulation
Prerequisite
Typewriting 20

Notes on Course Implementation

The office procedures subject strand identifies ten modules: one core and nine elective. The core module is prerequisite to the elective modules. The elective modules are not sequential, although Modules 7, 8 and 9 are recommended for 30-level courses.

Modules 1 to 5 are particularly suitable for a program designed for students interested in general (clerical) office occupations that do not emphasize secretarial routines. Module 10 could be included to support either clerical- or secretarial-oriented courses.

Modules 7, 8 and 9 require Typewriting 20 as a prerequisite and should be taught in a classroom equipped with electric/electronic typewriters or machines with text editing capability. Courses offered at the 30-level should expand basic skills and concepts and require students to demonstrate a skill level that reflects business standards.

Courses may be developed for Office Procedures 20 and 30 in modular groups of 3 or 5 to a maximum of 10 credits. Modules from the *Optional* strand that are recommended for use within Office Procedures 20 and/or 30 are:

Module No. 8.	Business Communications – Practice
Module No. 9.	Business Communications – Integration
Module No. 11.	Goal Setting and Career Development
Module No. 12.	Dicta Typing 1
Module No. 13.	Dicta Typing 2
Module No. 14.	Word Processing 1
Module No. 15.	Word Processing 2
Module No. 16.	Business Simulation

Refer to individual modules for further information regarding equipment requirements and prerequisites.

Integration of Work

It is recommended that the work study component of work experience be integrated into the office procedures program. Also, the work experience program could be planned in conjunction with Office Procedures 30.

CONTENT

Module 1	**Structure of the Business Office**
Purpose	*To provide the student with an awareness of how the office functions in a business organization and of the related procedures common to a business office.*
Topics	organization and management; office functions (overview); organization of work; office safety; employees' benefits and protection.
Module 2	**Personnel in the Business Office**
Purpose	*To expand the student's awareness of the need for positive human relations, and to build an awareness of various career paths within business offices.*
Topics	job descriptions; human relations; ethics in the business office; career preparation activities.
Module 3	**Business Communications**
Purpose	*To provide the student with an opportunity to become familiar with the various methods of communication used in a business office.*
Topics	non-written forms of communication; meeting the public; telecommunication services; written forms of communication; reproduction of written information; processing written communications and materials; transmission of written communications; business meetings.
Module 4	**Records Management**
Purpose	*To enable the student to understand and apply current procedures for the storage, retention, reproduction and retrieval of records information.*
Topics	basics for records management; files management; filing procedures; records retention schedule; records centre facilities; other media; file project.
Module 5	**Information Processing**
Purpose	*To enable the student to understand the routines related to information processing through the study of procedures, equipment and people.*
Topics	electronic information processing; organizational concepts; input; storage; output.
Module 6	**Clerical Routines**
Purpose	*To provide the student with the opportunity to understand and develop skill in the clerical routines that support the handling of goods and services.*
Topics	business systems; purchasing routines; receiving routines; sales routines; banking routines; shipping routines.

Module 7	**Secretarial Routines**
Purpose	*To provide the student with an opportunity to understand and develop skill in the secretarial routines that support management activity.*
Topics	input/output of information; productivity; executive secretary/ administrative assistant functions; meetings; financial management; travel; reference.
Module 8	**Office Specialties I**
Purpose	*To provide the student with an opportunity to integrate the skills, tasks and attitudes consistent with the terminology, documentation and procedures prevalent in selected secretarial specializations.*
Topics	terminology; resources; skill development; time management; evaluation.
Module 9	**Office Specialties II**
Purpose	*To provide an opportunity for the student to pursue further study in an area of secretarial specialization within an office-like environment.*
Topics	decision making and setting objectives; planning and setting priorities; integrating skills; evaluating the outcome; developing plans for improvement.
Module 10	**Office Simulation**
Purpose	*To provide the student with job preparation activities in a simulated or real environment.*
Topics	defining responsibilities; future career paths; lines of authority; tasks and procedures; attitudes.

BASIC LEARNING RESOURCES

Luke, C. *Office Systems*. Canadian edition. Markham, ON: Houghton Mifflin Canada Ltd., 1984.

ISBN 0395351235

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SHORTHAND 20-30

INTRODUCTION

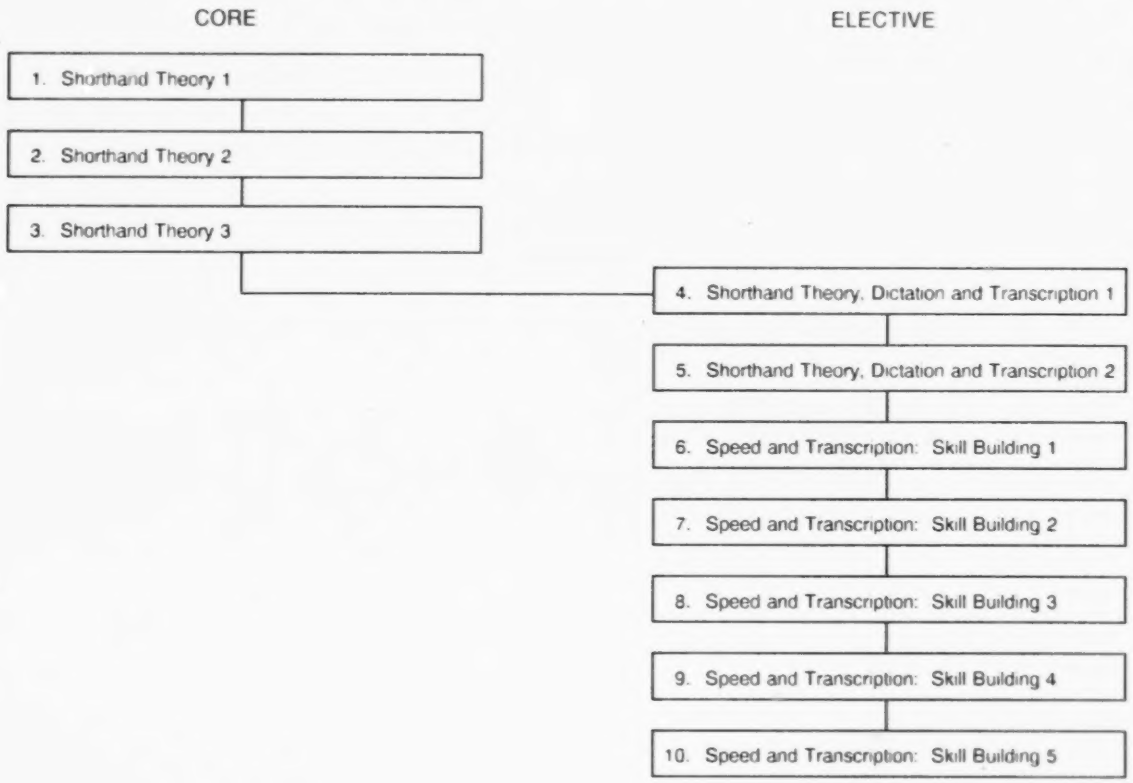
Shorthand provides students with an opportunity to become adept in an efficient note-taking system that is suitable for personal or career use. Students will learn to produce mailable transcripts from shorthand notes. The study of shorthand can improve basic English skills, expand vocabulary and enhance employment possibilities. The alphabetic shorthand systems are considered suitable for the purposes of this program.

OBJECTIVES

The student will:

1. Develop efficient note-taking skills suitable for personal and/or business use (Modules 1–3).
2. Develop the ability to take notes verbatim in shorthand and transcribe these notes into accurate copy at a level of efficiency that meets entry-level employment standards (Modules 4–10).
3. Expand and integrate skills and knowledge in areas of verbal and written communication.

FLOW CHART OF MODULES


CORE
ELECTIVE
1. Shorthand Theory 1
2. Shorthand Theory 2
3. Shorthand Theory 3
4. Shorthand Theory, Dictation and Transcription 1
5. Shorthand Theory, Dictation and Transcription 2
6. Speed and Transcription: Skill Building 1
7. Speed and Transcription: Skill Building 2
8. Speed and Transcription: Skill Building 3
9. Speed and Transcription: Skill Building 4
10. Speed and Transcription: Skill Building 5

Notes on Course Implementation

The shorthand subject strand identifies ten modules, three of which are core and seven of which are elective. Modules 1–3 are prerequisite to Module 4 and/or 6. Modules are sequential.

Courses of 3 or 5 credits may be developed in Shorthand 20 and 30 by selecting three or five modules from the shorthand subject strand. A maximum of 10 credits is available to each student.

Modules 1, 2 and 3 could emphasize note-taking skills that are suitable for all students. Although keyboarding skills would be an effective prerequisite skill, Modules 1, 2 and 3 do not require typewriting. Modules 4 to 10 expand the dictation and transcription skills to levels suitable for job entry.

Courses including Modules 4 to 10 must be offered in a typewriting lab, with access to transcription machines.

The modules from the *Optional* strand that are recommended for integration in Shorthand 20–30 are:

Module No.	7.	Business Communications – Development
Module No.	8.	Business Communications – Practice
Module No.	9.	Business Communications – Integration
Module No.	12.	Dicta Typing 1
Module No.	14.	Word Processing 1
Module No.	16.	Business Simulation

Refer to individual modules for further information on equipment requirements or course prerequisites.

CONTENT

Module 1	**Shorthand Theory 1**
Purpose	*To introduce the student to a shorthand system that has its base in the alphabet.*
Topics	writing techniques; note-taking; shorthand outlines; theory application.
Module 2	**Shorthand Theory 2**
Purpose	*To continue with the study of a shorthand system, and to introduce the student to dictation.*
Topics	writing techniques; note-taking skills; shorthand outlines; skill development.
Module 3	**Shorthand Theory 3**
Purpose	*To continue to study a shorthand system, and to develop skill in taking dictation.*
Topics	writing techniques; note-taking skills; shorthand outlines; skill development.
Module 4	**Shorthand Theory, Dictation and Transcription 1**
Purpose	*To continue to develop skill in the use of the shorthand system and related note-taking techniques, and to develop basic transcription skill.*
Topics	writing techniques; theory application; transcription skills; language skills; format skills.
Module 5	**Shorthand Theory, Dictation and Transcription 2**
Purpose	*To continue to develop skill in the use of the shorthand system and related note-taking and transcription techniques.*
Topics	writing techniques; speed-building skills; transcription skills; language skills; format skills.
Module 6	**Speed and Transcription: Skill Building 1**
Purpose	*To build skills in the efficient use of the shorthand system through the demonstration of effective dictation and transcription skills.*
Topics	reading skills; speed-building skills; transcription skills; language and format skills.
Module 7	**Speed and Transcription: Skill Building 2**
Purpose	*To expand speed and accuracy of verbatim note-taking and mailable transcription skills.*
Topics	reading skills; speed-building skills; transcription skills; language and format skills.
Module 8	**Speed and Transcription: Skill Building 3**
Purpose	*To expand speed and accuracy of verbatim note-taking and mailable transcription skills.*
Topics	reading skills; speed-building skills; transcription skills; language and format skills; dictation skills.

Module 9 Speed and Transcription: Skill Building 4

Purpose *To expand speed and accuracy of verbatim note-taking and mailable transcription skills incorporating specialized vocabulary.*

Topics reading skills; speed-building skills; transcription skills; language and format skills.

Module 10 Speed and Transcription: Skill Building 5

Purpose *To continue to develop verbatim note-taking and transcription skills while expanding the use of specialized business vocabulary and refining the format and language skills.*

Topics reading skills; speed-building skills; transcription skills; language and format skills.

BASIC LEARNING RESOURCES

Brown, F. A. *Forkner Shorthand: Correlated Dictation and Transcription (Advanced)*. Second edition. Scarborough, ON: Nelson Canada, 1974.

ISBN 0912036168

Ernest, V. *Principles of Speedwriting (Introductory)*. Secondary edition: Landmark series. Don Mills, ON: Collier Macmillan Canada, Inc., 1977.

ISBN 0672980010

Forkner, H. L. *Forkner Shorthand (Introductory)*. Second Canadian edition. Scarborough, ON: Nelson Canada, 1983.

ISBN 0771503687

Hale, J. *Speedwriting Dictation and Transcription*. Secondary edition: Landmark series. Don Mills, ON: Collier Macmillan Canada, Inc., 1977.

ISBN 0672980045

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TYPEWRITING
10-20-30

INTRODUCTION

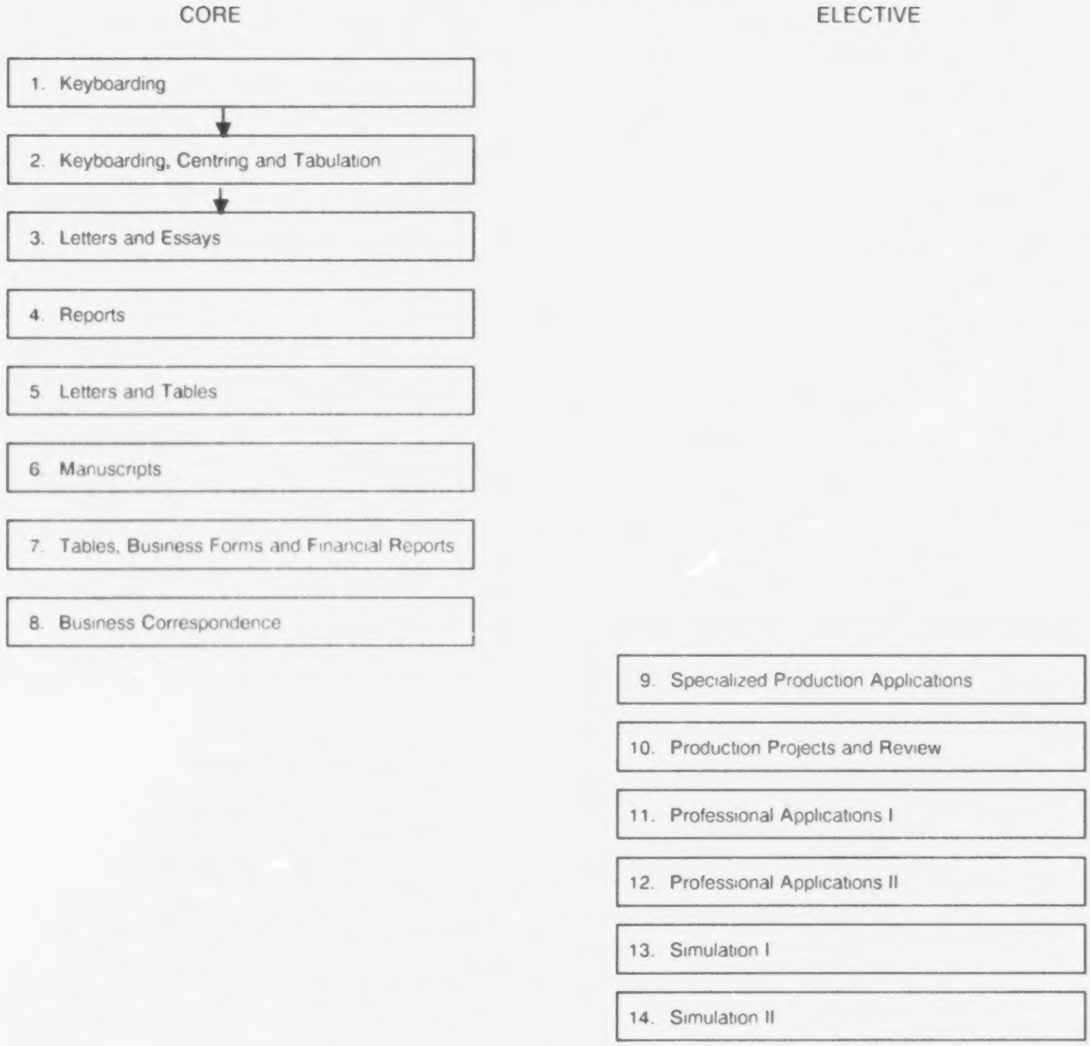
Typewriting offers an opportunity for the student to develop the keyboarding and production skills that are valuable for personal use or vocational preparation. The introductory modules are structured to facilitate development of correct touch-keyboarding techniques. These techniques are the foundation from which students build skills to produce efficiently a variety of transcripts in mailable form. Students expand their production skills by becoming efficient in the use of the equipment and building skill in editing and composition.

OBJECTIVES

The student will:

1. Assume good posture at the work station while demonstrating an ability to maintain correct finger control on the keyboard.
2. Select and use the various equipment parts in an efficient and appropriate manner.
3. Compose and edit at the work station, demonstrating knowledge of correct language and production procedures.
4. Produce a variety of mailable copy from rough draft, unarranged and unedited source material.
5. Demonstrate efficient work habits and a commitment to quality production.

FLOW CHART OF MODULES


CORE
ELECTIVE
1. Keyboarding
2. Keyboarding, Centring and Tabulation
3. Letters and Essays
4. Reports
5. Letters and Tables
6. Manuscripts
7. Tables, Business Forms and Financial Reports
8. Business Correspondence
9. Specialized Production Applications
10. Production Projects and Review
11. Professional Applications I
12. Professional Applications II
13. Simulation I
14. Simulation II

Notes on Course Implementation

The typewriting subject strand consists of fourteen modules: eight core and six elective. The core modules are prerequisite to the elective modules. Modules 11, 12, 13 and 14 are recommended for the 30-level.

The first three modules are prerequisite to Modules 4 and 5. Modules 4 and 5 are not sequential but are prerequisite to Modules 6, 7 and 8. Modules 1 to 8 are prerequisite to Modules 9 to 14.

Although all modules can be offered on machines with text editing capability, it is recommended that students have access to text editing equipment for Modules 10 to 14.

Typewriting 30 may be offered only for 5 credits (five modules). A maximum of 15 credits is available to a student in Typewriting 10–20–30. Modules from the *Optional* strand that are recommended for integration are:

Module No. 12.	Dicta Typing 1
Module No. 13.	Dicta Typing 2

Module No. 14. Word Processing 1
Module No. 15. Word Processing 2
Module No. 16. Business Simulation

Refer to individual modules for further information regarding equipment requirements and prerequisites.

CONTENT

Module 1 **Keyboarding**

Purpose *To introduce the student to the keyboard, and to develop the basic skill of touch-typewriting.*

Topics basic techniques: work station, technique development, use of equipment; skill development: keyboard mastery (alphabet and numbers); production applications: type sizes and styles, editing skills.

Module 2 **Keyboarding, Centring and Tabulation**

Purpose *To improve the student's touch-typing skills.*

Topics basic techniques: work station, technique development, use of equipment; skill development: keyboard mastery (symbols); production applications: composing, editing, centring, outlining and enumerating.

Module 3 **Letters and Essays**

Purpose *To expand the student's keyboarding and production skill level through application of skills on letters, envelopes and essays.*

Topics basic techniques: work station, technique development, use of equipment; skill development: keyboard mastery, error correction; production applications: editing skills, composition, personal letters and personal business letters, essays.

Module 4 **Reports**

Purpose *To continue the development of effective typewriting techniques and to increase knowledge of production procedures as applied to reports.*

Topics basic techniques: work station, technique development; skill development: keyboard mastery; production applications: editing skills, composition, reports.

Module 5 **Letters and Tables**

Purpose *To continue to develop fluency in touch-keyboarding, compositional and editing techniques, and to improve production skills associated with letters and tables.*

Topics basic techniques: work station, technique development; skill development: keyboard mastery; production applications: editing skills, composition, business letters, tabulations.

Module 6 **Manuscripts**

Purpose *To improve keyboarding and production skills in a variety of manuscript applications.*

Topics basic techniques: work station, technique development, skill development: keyboard mastery, production speed; production applications: editing skills, composition, title page, multipage manuscripts, footnotes and referencing, bibliographies.

Module 7 Tables, Business Forms and Financial Reports

Purpose *To improve keyboarding skills with special emphasis on numbers, and to develop skill in the production of business forms, tables and financial reports.*

Topics basic techniques: work station, technique development, skill development: keyboard mastery, production speed; production applications: editing skills, composition, business forms, tables, financial reports.

Module 8 Business Correspondence

Purpose *To improve keyboarding skills, and to develop skill in the production of business correspondence.*

Topics basic techniques: work station, technique development; skill development: keyboard mastery, production speed; production applications: editing skills, composition, letter styles, special letter features, salutations and closings, envelopes and labels, memoranda.

Module 9 Specialized Production Applications

Purpose *To increase keyboarding skill, and to develop skill in the production of a wide variety of business, technical, medical and legal documents.*

Topics basic techniques: work station, technique development; skill development: keyboard mastery, production speed; production applications: editing skills, composition, special purpose applications, technical applications, medical applications, legal applications.

Module 10 Production Projects and Review

Purpose *To improve keyboarding skills and techniques and to review production applications in a variety of tabulation, report and letter forms.*

Topics skill development; production applications: review of basic business typewriting applications, decision making, personal attitudes.

Modules 11 and 12 Professional Applications I and II

Purpose *To provide the student with an opportunity to explore a specialized area of interest, such as medical, legal, technical, or petrochemical.*

Topics production applications: professional production applications, integrated production skills, terminology, work station, decision making.

Modules 13 and 14 Simulation I and II

Purpose *To provide the student with an opportunity to be involved in activities that simulate office work.*

Topics production applications: integrated production applications, setting priorities, office organization, work flow, decision making.

BASIC LEARNING RESOURCES

Farmer, G. *Keyboarding: Business Applications*. Scarborough, ON: Nelson Canada, 1985. [Modules 1-9]

ISBN 0771509200

Farmer, G. et al. *Professional Applications in Typewriting*. Scarborough, ON: Nelson Canada, 1977. [Modules 8-11]

ISBN 0771508867

Lloyd, A. C. *Gregg Typing/Series Seven, Book 1: General Course*. Canadian edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1983. [Modules 1-8, 10]

ISBN 0075485990

Lloyd, A. C. *Gregg Typing/Series Seven, Book 2: Advanced Course*. Canadian edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1984. [Modules 6-14]

ISBN 00475486032

Miller, J. W. *Words into Print: Applications in Word Processing and Typewriting*. Rexdale, ON: John Wiley & Sons Canada Limited, 1984. [Modules 9-14]

ISBN 047179788X

Ubelacker, S. D. *Mastering Keyboarding Skills*. Toronto, ON: Copp Clark Pitman Ltd., 1983. [Modules 1-5]

ISBN 0773043098

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BUSINESS EDUCATION 10-20-30

OPTIONAL MINI COURSES

INTRODUCTION TO BUSINESS EDUCATION 10–20–30

Business Education 10–20–30 are courses that allow schools vertical and lateral flexibility in module selection. These courses may be designed to address the unique needs of a specific group of students, or to meet the objectives of a particular school.

Business Education 10–20–30 courses may be created by selecting one or more modules from the eight main subject strands as well as from the optional column. Elective modules within the subject strands may be selected only if students have taken the core modules identified in that strand.

INTRODUCTION TO MINI COURSES

Five mini courses are available to schools. They are:

1. Record Keeping 10 (3 credits)
2. Business Calculations 20 (3 credits)
3. Business Communications 20 (3 credits)
4. Dicta Typing 20 (3 credits)
5. Word Processing 30 (3 credits)

Alternatively, mini course modules are available for enrichment or enhancement within the subject strands.

Refer to the curriculum guides or the planning worksheets available in the *Business Education Manual for Administrators, Counsellors and Teachers* for further information.

INTRODUCTION TO OPTIONAL STRAND

The sixteen optional modules may be used to enhance any one of the eight subject strands. One optional module may replace an elective module in a 3-credit course and one or two in a 5-credit course. The business simulation and business research modules can be used more than once, provided that content is not duplicated.

OBJECTIVES

1. Business Education 10–20–30 provides flexibility for programming through the use of subject and *Optional* strand modules.
2. Mini courses allow schools to combine three *Optional* modules within a specific content or skill area to form 3-credit courses.
3. *Optional* strand modules allow schools to provide supplemental material to enhance subject area strand courses.

4. Business Calculations and Business Communications modules develop effective communication and calculation skills suitable for personal and business related activities.

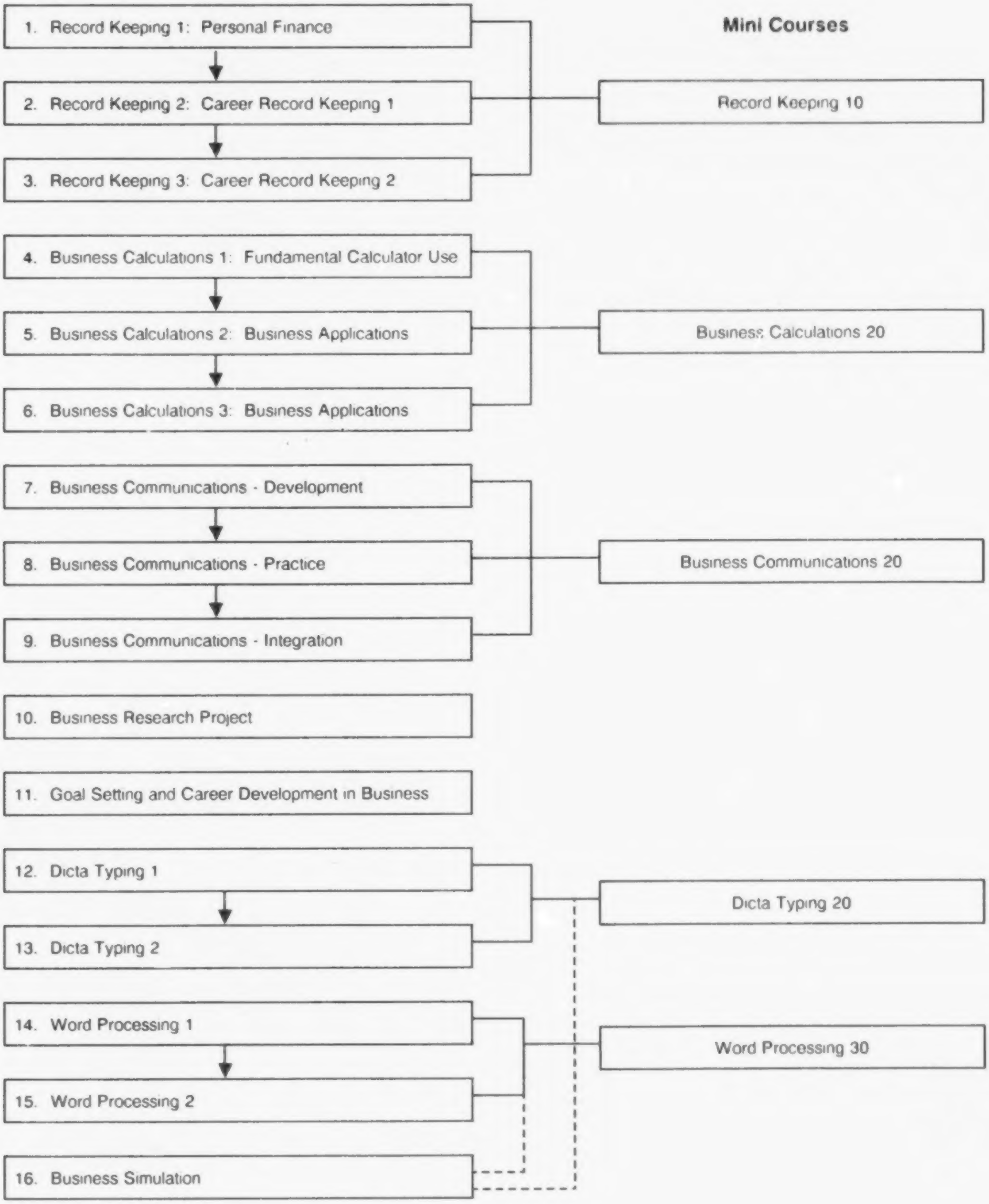
5. Dicta typing and word processing modules expand knowledge of and skill in dealing with the procedures and technology common to a modern business office.

6. The business simulation module provides experience in situations that reflect the standards and environment of business.

7. Goal setting and career development modules explore various strategies for goal setting and develop plans for a career in the business world.

8. The business research project recognizes the sources of information available to a student in the decision-making process and increases the level of skill and knowledge through research in an area that is of personal interest or is relevant to the business program.

FLOW CHART OF MODULES


Mini Courses
1. Record Keeping 1: Personal Finance
2. Record Keeping 2: Career Record Keeping 1
3. Record Keeping 3: Career Record Keeping 2
Record Keeping 10
4. Business Calculations 1: Fundamental Calculator Use
5. Business Calculations 2: Business Applications
6. Business Calculations 3: Business Applications
Business Calculations 20
7. Business Communications - Development
8. Business Communications - Practice
9. Business Communications - Integration
Business Communications 20
10. Business Research Project
11. Goal Setting and Career Development in Business
12. Dicta Typing 1
13. Dicta Typing 2
Dicta Typing 20
14. Word Processing 1
15. Word Processing 2
Word Processing 30
16. Business Simulation

CONTENT

Module 1	**Record Keeping 1: Personal Finance**
Purpose	*To provide the student with the basic skills essential to personal financial management.*
Topics	basic skills; bank function; credit cards; automobile records; personal record keeping.
Module 2	**Record Keeping 2: Career Record Keeping 1**
Purpose	*To provide the student with the basic skills in record keeping procedures in a variety of career areas.*
Topics	retail sales clerk; stock clerk; purchasing clerk; payroll clerk.
Module 3	**Record Keeping 3: Career Record Keeping 2**
Purpose	*To provide students with further skills in record keeping procedures in a variety of career areas.*
Topics	accounts payable clerk; order clerk; accounts receivable clerk; cash clerk.
Module 4	**Business Calculations 1: Fundamental Calculator Use**
Purpose	*To build skill in performing common arithmetic operations using touch control on electronic calculators.*
Topics	machine operation; basic calculator applications; estimation.
Module 5	**Business Calculations 2: Business Applications**
Purpose	*To build data entry and calculation skills for personal applications.*
Topics	machine operation: personal finance; insurance; taxation and utility; bank loans; stocks and bonds; compound interest; foreign exchange.
Module 6	**Business Calculations 3: Business Applications**
Purpose	*To build data entry and calculation skills for business applications.*
Topics	machine operation: payroll register; alternative payroll calculations; metric measurement; extensions and discounts; retail pricing; foreign exchange; financial analysis.
Module 7	**Business Communications: Development**
Purpose	*To improve basic communication skills used in the business community.*
Topics	proofreading, vocabulary development; composition; information; report writing.
Module 8	**Business Communications: Practice**
Purpose	*To develop and practise speaking, listening, reading and writing skills used in the business community.*
Topics	speaking skills; listening skills; reading skills; writing skills; information gathering skills; editing skills; presentation skills; memory; feedback.

Module 9 **Business Communications: Integration**

Purpose *To integrate communication skills with career demands applicable to the business environment.*

Topics interaction with individuals; interaction with groups.

Module 10 **Business Research Project**

Purpose *To recognize the sources of information available to a student in the decision-making process and to increase the level of skill and knowledge through research.*

Topics define general objectives; define specific objectives; obtain data; analyze data; formulate report; evaluate the results.

Module 11 **Goal Setting and Career Development in Business**

Purpose *To study various strategies for goal setting and goal attainment and to develop personal career-seeking strategies.*

Topics goal setting; techniques of goal setting; problem-solving strategies; career goals; educational program; job search.

Module 12 **Dicta Typing 1**

Purpose *To introduce the student to dictation equipment and to develop transcription skills.*

Topics work station; operating procedures; listening skills; editing skills; transcription applications; speed building.

Module 13 **Dicta Typing 2**

Purpose *To expand transcription skills through a variety of applications.*

Topics work station; special instructions; listening skills; editing skills; dictation skills; transcription applications; speed building.

Module 14 **Word Processing 1**

Purpose *To develop skill in the basic functions of word processing.*

Topics terminology; work station; input procedures; editing and correction functions; storage and management of input; output procedures; specialized equipment features.

Module 15 **Word Processing 2**

Purpose *To expand skills in the efficient use of text editing equipment.*

Topics procedures and process; work station; production applications; editing and revision; storage of documents.

Module 16 **Business Simulation**

Purpose *To encourage the student to expand knowledge and develop decision-making and technical skills relevant to situations within the business environment.*

Topics parameters of simulation; business functions; personnel functions; work flow; evaluation of simulation.

BASIC LEARNING RESOURCES

Record Keeping (Modules 1, 2, 3)

Lasselle, R. C. *Recordkeeping: The Total Concept*. Canadian edition. Markham, ON: Houghton-Mifflin Canada Limited, 1985.

ISBN 0395351243

Business Calculations 20 (Modules 4, 5, 6)

Wallace, M. *Mathematics for Business with Machine Applications*. Agincourt, ON: Gage Educational Publishing Company, 1977.

ISBN 0771509014

Business Communications 20 (Modules 7, 8, 9)

Brown, D. *Effective English for Business Communication*. Canadian edition. Agincourt, ON: Gage Educational Publishing Company, 1982.

ISBN 0395351243

Dicta Typing 20 (Modules 12, 13)

Farmer and Brown. *Dicta-Typing: A Short Course*. Second edition. Agincourt, ON: Gage Educational Publishing Company, 1982. [Text/Workbook]

ISBN 047179488X

Word Processing 30 (Modules 14, 15)

Miller, J. W. *Words into Print: Applications in Word Processing and Typewriting*. Rexdale, ON: John Wiley & Sons Canada Limited, 1984. [Modules 9–14]

ISBN 047179488X

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COMPUTER LITERACY 10

INTRODUCTION

Computer Literacy 10 is a basic introductory course developed in response to the need to acquaint high school students with a general understanding of computers and their use. The course has been designed in conjunction with computer literacy programs introduced at both the elementary and junior high levels. Additionally, the course has taken into consideration other courses in computer studies, primarily Computer Processing 10-20-30, offered at the high school level. An effort has been made to coordinate and minimize content overlap with other programs and to accommodate students with or without previous computer experience.

Note: Teachers are advised to consult the *Computer Literacy 10 Curriculum Guide*, 1984 for direction concerning the amount of instructional time to be devoted to specific topic areas and the selection of electives for students without previous computer experience.

GOALS

The program is designed to achieve the following goals.

1. To develop student understanding of basic computer operations and terminology.
2. To develop an appreciation of the technological development of computer systems.
3. To develop skills, attitudes and interests that facilitate the use of computer systems.
4. To have students appreciate that effective problem solving with computer systems requires the application of logical thought processes and have them develop the skills required for a holistic, systematic approach to problem solving.
5. To have students appraise the applications, limitations and capabilities of computer systems.
6. To promote a greater understanding and increased use of computer technology in other subject areas.
7. To have students assess the current and potential impact of computer systems on society.
8. To develop skills, attitudes and interests that will facilitate adaptation to changes in the workplace due to computer technological developments.

Students should be given the opportunity to explore as widely as possible, and be encouraged to pursue investigative activities based upon personal goals and interests.

SOFTWARE*

One of the following software packages will be necessary to complete portions of the course:

1. data management program
2. word processing program
3. spreadsheet program
4. simulation packages
5. graphics processor
6. music processor
7. integrative software.

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* Commercial software to supplement the course is under review by Alberta Education.

CORE COMPONENTS (90%)

Topic 1: Computer Systems

Goals:
1. To develop student understanding of basic computer operations and terminology.
2. To develop an appreciation of the technological development of computer systems.

Objectives	Dimension Status	Concepts/Skills/Comments
The student will:		
1.0 DESCRIBE THE BASIC OPERATIONS AND HISTORY OF COMPUTER SYSTEMS.		
1.1 Recognize and use computer terms.	A	Review terminology from the elementary unit and the junior high course, or introduce as required. Additional terms: computer networking, data base, interactive data processing, word processing, information retrieval, artificial intelligence, robot, android, cyberg, cybernetics videotex, teletex, interface, laser, holography, synthesizer, speech recognition device, bubble memory, cashless society, encryption, electronic funds transfer, firmware, megabyte, videodisc, simulation, computer revolution, expert system, and new BASIC commands from Topic 3.

Note:
Dimension Codes A = Awareness; F = Function; U = Critical Understanding
Status Code R = Review (covered in junior high course)
* Hands-on Required

Topic 1: Computer Systems (continued)

Objectives	Dimension Status	Concepts/Skills/Comments
1.2 Describe the role played in a computer system by people, software, hardware, data, documentation and communications.	A	Each of these components is an essential element in the successful operation of the computer systems being used in many areas of society.
1.3 Briefly describe the historical development of computer devices.	AR	Technological changes have influenced the design and capabilities of computers and will affect future computer developments. Comments: Stress should be placed on the trends rather than the details of technological developments.

Topic 2: Computer Operations

Goal: To develop skills, attitudes and interests that facilitate the use of computer systems.

Objectives	Dimension Status	Concepts/Skills/Comments
The student will:		
2.0 PROCESS INFORMATION BY USING A COMPUTER SYSTEM.		
2.1 Demonstrate responsible behaviour in using a computer system.	FR*	Concepts/skills from the junior high course should be reviewed.
2.2 Use system commands (DOS) with prepared programs and available hardware.	FR*	Concepts/skills from the junior high course should be reviewed. A variety of software is available to assist in the execution of a given task.

Note:		
	Dimension Codes	A = Awareness; F = Function; U = Critical Understanding
	Status Code	R = Review (covered in junior high course)
	*	Hands-on Required

Topic 3: Computer Programming

Goal: To have students appreciate that effective problem solving with computer systems requires the application of logical thought processes and have them develop the skills required for a holistic, systematic approach to problem solving.

Objectives	Dimension Status	Concepts/Skills/Comments
The student will:		
3.0 FOLLOW AN ORDERLY SEQUENCE OF STEPS TO DEVELOP A COMPUTER PROGRAM TO SOLVE A PARTICULAR PROBLEM.		
3.1 Explain the existence of several variations of the BASIC language.	A	Differences in microprocessors and disc operating systems limit compatibility of computer software.
3.2 Describe distinguishing characteristics of different data types.	A	Some data types include integer data, floating point and alphanumeric.
3.3 Code a given procedure (algorithm) into a computer program.	FR*	Skills to be reviewed from junior high or introduced as required include: • applying flow charting concepts, logic and programming techniques • using NEW, SAVE, LIST, DELETE, LOCK, UNLOCK commands or their equivalents in another computer language • using alphanumeric variables and meaningful variable names in a computer program • applying the rules governing order of evaluation of mathematical operators • providing brief documentation for computer programs; e.g., problem statement, flow charts, REM statements • producing readable output through appropriate formatting • using BASIC statements: LET, PRINT, INPUT, IF/THEN, GOTO, END, STOP or their equivalents in another computer language • using relational operators (< > =) • using graphics.

Note:		
Note:	Dimension Codes	A = Awareness; F = Function; U = Critical Understanding
	Status Code	R = Review (covered in junior high course)
	*	Hands-on Required

Topic 3: Computer Programming (continued)

Objectives	Dimension Status	Concepts/Skills/Comments
3.3 Code a given procedure (algorithm) into a computer program. (continued)	F*	New skills include: • using FOR/NEXT statements, nested loops, READ/DATA, GOSUB, GET, STEP or their equivalent in another computer language • using cursor control keys for editing • controlling a variety of peripheral devices within a computer program.
3.4 Be able to analyze computer programs.	FR*	Programs should be tested and debugged and the results checked for correctness. Logic, data and/or syntax errors may occur in programs. Programs should be modified to accomplish a new but related task.
3.5 Display confidence in his or her ability to use and control computers.	F*	Each student should independently design and successfully demonstrate a computer program.

Topic 4: Computer Applications

Goals: 1. To have students appraise the applications, limitations and capabilities of computer systems.
2. To promote a greater understanding and increased use of computer technology in other subject areas.

Objectives	Dimension Status	Concepts/Skills/Comments
The student will:		
4.0 UNDERSTAND THE APPLICATIONS, LIMITATIONS AND CAPABILITIES OF COMPUTERS.		
4.1 Identify specific tasks performed by computers in various areas of society.	AR	There are many tasks appropriate for computer applications in various areas of society. Some problems require computer use while others do not.

Note: Dimension Codes A = Awareness; F = Function; U = Critical Understanding
Status Code R = Review (covered in junior high course)
* Hands-on Required

Objectives	Dimension Status	Concepts/Skills/Comments
4.1 Identify specific tasks performed by computers in various areas of society. (continued)		Computers are controlled by programs and can do only what people instruct them to do. Innovations in hardware and software continually expand the uses of computers.
4.2 Describe ways in which information may be retrieved from data bases.	A	The retrieval and sending of data may involve radio, television, telephone, satellite, cable networks. Teletex, videotex systems and information retrieval bases are in use in Europe, North America and Japan.
4.3 Describe factors that limit computer use.	U	Cost, software, storage capacity, hardware speed and compatibility, legal constraints and people's attitudes may limit the use of computers.
4.4 Describe how computers are used to control other machines and devices.	U	Rapid developments are occurring in the fields of robotics and cybernetics. Also see Objective 5.5.
4.5 Manipulate information, using a commercially prepared interactive data processing program.	F*	Students should use an interactive data processing package such as: Data base programs may be used for a variety of applications including inventory control, personnel records, accounting and customer files. Students using data base programs should start a new file and add, edit, delete, search for and print records. AND/OR Word processors may be used by students for compositions in various subject areas. AND/OR Students can use an electronic spreadsheet in a selected project: personal budget, income taxes, running a small business (school canteen or store), projecting various rates of inflation, calculating mortgage payments at various rates of interest. AND/OR Students may use a simulation in various subject areas; e.g., music and graphic processors and/or investigate capabilities of integrative software.

Note:		
	Dimension Codes	A = Awareness; F = Function; U = Critical Understanding
	Status Code	R = Review (covered in junior high course)
	*	Hands-on Required

Topic 5: The Societal Impact of the Computer

Goal: To have students assess the current and potential impact of computer systems on society.

Objectives	Dimension Status	Concepts/Skills/Comments
The student will:		
5.0 APPRECIATE THE IMPACT THAT COMPUTERS CAN HAVE ON OUR LIFESTYLE.		
5.1 Identify factors that contribute to our increasing dependence on computer-based systems.	U	Factors such as the following should be identified. Costs of hardware are decreasing while capabilities are increasing (cost-benefit ratio). Business institutions must use technology to keep pace with the competition. We are currently witnessing the shift from an industrial-based/energy-based society to an information-based society (computer revolution). The need for efficiency in the use of scarce resources may force us to adapt to an information-based society. Computers can eliminate tedious, repetitive jobs. The amount of information made available through the use of electronic technology prevents any individual from maintaining complete knowledge of his or her subject field.
5.2 Assess the impact that computers have in the distribution and use of economic, social and political power.	U	Computer impacts such as the following should be identified. Access to current information is a powerful asset for economic and political institutions. Technological developments could permit instant polling and direct consumer and citizen input into decision making. An increasing proportion of our economy is dependent upon information technology. What are the implications of developing a "cashless society"?

Note:		
	Dimension Codes	A = Awareness; F = Function; U = Critical Understanding
	Status Code	R = Review (covered in junior high course)
	*	Hands-on Required

Objectives	Dimension Status	Concepts/Skills/Comments
5.2 Assess the impact that computers have on the distribution and use of economic, social and political power. (continued)	U	Computer technology, coupled with new telecommunication devices and mass data storage facilities could permit surveillance of citizens, major changes in the formal educational system, and a shift of the populace from urban to rural environments. The new information technologies could have a major impact on traditional media. Information technology affects the reporting of current events, world governments, international standards and the exploration of space and the ocean. Will access to information technology widen the gap between developed and developing nations? Electronic technology permits new forms of entertainment, communication and lifestyles. Will we become economically and psychologically dependent upon this technology?
5.3 Assess the impact of computers in the workplace.	U	Computer impacts such as the following should be identified. Computers are causing changes in the availability and types of jobs. Shifts in employment patterns will have psychological as well as economic effects. Electronic technology could foster a decentralization of the workplace (cottage industry). Retraining programs may be required for people displaced by technological change. New employment opportunities may be available for disabled people. Both labour unions and management may have different roles in an information-based society. Technology innovations could allow shorter and more flexible work hours, fostering an expansion of the recreation industries. Surveillance of productivity and employees is facilitated by electronic technology.

Note:

Dimension Codes	A = Awareness; F = Function; U = Critical Understanding
Status Code	R = Review (covered in junior high course)
*	Hands-on Required

Topic 5: The Societal Impact of the Computer (continued)

Objectives	Dimension Status	Concepts/Skills/Comments
5.3 Assess the impact of computers in the workplace. (continued)	U	There may be health and safety risks involved when using electronic technology in the workplace. How can the benefits of automation be shared throughout all levels of society?
5.4 Distinguish between human capabilities and computer capabilities.	U	Capabilities such as the following should be identified. Human beings have intuitive and creative abilities, emotions, complex language and social skills, senses and the ability to make value judgments. Humans are capable of non-linear, time independent, non-sequential, random and pattern oriented thought. Computers are best suited for tasks requiring speed, accuracy, repeated operations and processing of large amounts of data. Computers are primarily capable of linear, time sequential, non-intuitive, structured and incremental learning. Humans and computers are interdependent in an information-based society.
5.5 Describe the current and potential uses of artificial intelligence.	U	Issues such as the following should be identified. Computers were developed by human beings and represent an imperfect reflection of human intelligence. As we move computers from a linear, left brain orientation into the right brain realm of inference and intuition, computers could simulate many human intellectual activities. Only the most basic intelligent human behaviours have been incorporated into computer programs and related hardware; e.g., robots, androids.

Note: Dimension Codes A = Awareness; F = Function; U = Critical Understanding
Status Code R = Review (covered in junior high course)
* Hands-on Required

Objectives	Dimension Status	Concepts/Skills/Comments
5.5 Describe the current and potential uses of artificial intelligence. (continued)	U	Artificial intelligence is a simulation of "humanness" by electronic computers. It includes a number of areas such as natural language processing, problem solving and pattern recognition. Cybernetics is the comparative study of the automatic control system formed by the nervous system and brain, and the control of electromechanical communication systems and devices. Cybernetics examines the relationship between humans and machines. Intelligent machines/devices could obey our spoken commands and answer our questions, control artificial limbs and organs or act as companions for the lonely or elderly. Microprocessors implanted in our bodies could give us better memory, or relieve pain, deafness and blindness, or augment our senses so that we can have telescopic vision, see X-rays or infra-red, or hear radio waves. As computers become able to replace/extend human senses, left brain and motor functions, human beings may gain additional economic/social value from their creative abilities. Will the implanting of microprocessors in the human body alter our concept of "humankind"? What are the moral/ethical implications of implanting microprocessors in human beings?
5.6 Propose an appropriate role for computers in society.	U	Issues such as the following should be identified. There are risks involved in using computer systems. Economic • high unemployment and retraining costs • dependency on computers necessitates high cost contingency plans for emergency situations • economic decisions may be based upon erroneous computer data or programs • some organizations may be unable to keep pace with rapid technological change.

Note:		
Note:	Dimension Codes	A = Awareness; F = Function; U = Critical Understanding
	Status Code	R = Review (covered in junior high course)
	*	Hands-on Required

Topic 5: The Societal Impact of the Computer (continued)

Objectives	Dimension Status	Concepts/Skills/Comments
5.6 Propose an appropriate role for computers in society. (continued)	U	Personal • increase in stress potential due to rapid technological change • some health/disease problems may be associated with the use of computer systems. Defence • increasing dependence upon computerized defence mechanisms could create enormous problems for humankind, if there are errors in programs or equipment. Communications • errors in transmission of electronic data or the breakdown of computer systems may have serious economic, political and personal consequences. There are numerous issues related to privacy and security in the use of computerized information systems. • What is privacy and security within the Canadian constitution? • How does the concept of "privacy" relate to the political system of a nation? • What information is contained in large data banks? • What are universal identifiers, and how could they be used to access information in data banks? • How reliable is data bank information? • Who owns the information on file? • Who should have access to the information? • Who decides how the information should be stored? • Who decides how the information is used? • What benefits are associated with the storage of personal information? Some regulatory procedures help to insure integrity of personal data files located in Canada: • *Privacy Act* (Bill C-43, 1982) • *Access to Information Act* (Bill C-43, 1982) • citizen use of the *Access Register* (1983) • Office of the Privacy Commissioner and/or Ombudsman

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Status Code R = Review (covered in junior high course)
* Hands-on Required

Objectives	Dimension Status	Concepts/Skills/Comments
5.6 Propose an appropriate role for computers in society. (continued)	U	• use of passwords, numbers, protected files, encryption codes and other electronic controls • industry self-regulation • judicial challenges based upon the Canadian constitution (*Canadian Charter of Rights and Freedoms*) and other government legislation. Are these procedures adequate to preserve our right to privacy? Are laws governing freedom of access to information incompatible with the right to privacy? What regulatory procedures are used in other countries to insure integrity of personal data files? Can computers be used by knowledgeable criminals to steal money or information? How could this information be used by interested parties? Do computer scientists, operators, etc., face significant moral issues when developing computer programs or hardware, or operating data banks? What regulatory procedures and other means could prevent the misuses of computers in society? Could people's values be in conflict with computer applications? As technology permits an international dissemination of information, regulation of information flow is complicated by differences in national laws regarding privacy, copyright and espionage. Do extradition treaties and reciprocal agreements apply to cases involving misuse of information?

Note: Dimension Codes A = Awareness; F = Function; U = Critical Understanding
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* Hands-on Required

Topic 6: Computer and Information Processing Careers

Goal: To develop skills, attitudes and interests that will facilitate adaptation to changes in the workplace due to computer technological developments.

Objectives	Dimension Status	Concepts/Skills/Comments
The student will:		
6.0 INVESTIGATE COMPUTER AND INFORMATION PROCESSING CAREERS.		
6.1 Identify careers directly involved with the computer and information processing industries and project future career choices.	A	Major categories of computer careers include data preparation clerk, coding clerk, computer operator, programmer, systems analyst or consultant, tape librarian, maintenance engineer, data processing manager, data base manager, sales personnel.
6.2 Describe some careers in which computer skills are desirable.	A	See Objectives 4.1 and 5.3. Examples include accountant, researcher, auditor, manager, etc.

ELECTIVE COMPONENT (10%)

Any one of the elective topics listed, or a portion thereof, may be selected to complete the elective component. Teachers are reminded that *the elective is a mandatory component of the program.*

Topic 1: Computer Systems

Objective	Dimension
The student will:	
Differentiate between analog and digital computers.	A
Describe how digital computers operate upon information that has been encoded in binary using the base 2 number system.	A
Describe the components of a CPU and explain how it controls what a computer does.	A
Describe the characteristics and demonstrate proper use of secondary storage systems.	A

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* Hands-on Required

Topic 1: Computer Systems (continued)

Objective	Dimension
Distinguish between parallel and serial communications.	A
Contrast the advantages/disadvantages of various input/output devices.	A
Recognize types of user interaction; e.g., batch, interactive, distributive.	A
Describe the function of some communication technologies; e.g., modem, acoustic coupler.	A
Identify that software includes operating systems, compilers and application (user) programs.	A
Identify factors that contribute to the evolution of computer systems (social, economic, geographic, technologic).	A

Topic 2: Computer Operations

Objective	Dimension
The student will:	
Identify other disc operating systems.	A
Explain the difference between two disc operating systems.	A
Use two or more disc operating systems.	F*

Topic 3: Computer Programming

Objective	Dimension
The student will:	
Distinguish between high and low level computer languages.	A
Identify some common computer languages.	A
Describe the standard flow chart symbols.	A
Draw a flow chart to represent a solution to a problem.	F

Note:		
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	Status Code	R = Review (covered in junior high course)
	*	Hands-on Required

Topic 3: Computer Programming (continued)

Objective	Dimension
Read and explain a flow chart.	F
Indicate knowledge and AND, OR, NOT logic by using it in a program (Boolean Logic).	F*
Use array variables in a program.	F*
Use DIM statements in a computer program.	F*
Use graphics and/or sound capabilities in a computer program.	F*
Use library functions (e.g., INT, SQR, RND) in a program.	F*
Use other programming statements in BASIC or in another computer language.	F*

Topic 4: Computer Applications

Objective	Dimension
The student will:	
Describe where and how computer graphics and sound are used; e.g., art, music.	A
Describe several computerized sampling techniques and statistical methods used in the social sciences.	A
Describe the magnitude and changing nature of the computer marketplace.	A
Analyze factors to be considered when purchasing a computer system.	A
Use a computer simulation to demonstrate understanding of the effects/interaction/limitations of variables.	FU*
Describe the time-sharing system of a large, complex computer and the process of being on line (suggest field trip and/or accessing an information retrieval system).	F*
Select, on the basis of program documentation and computer capabilities, a commercial program appropriate to the execution of a given task.	F*

Note: Dimension Codes A = Awareness; F = Function; U = Critical Understanding
Status Code R = Review (covered in junior high course)
* Hands-on Required

Topic 5: The Societal Impact of Computers

Objective	Dimension
The student will:	
Analyze case studies on access to information and security data.	A
Visit computer applications and installations in his or her geographical area. Report and share information collected.	A
Build a data base and manipulate the data to meet identified needs.	FA*

Topic 6: Information Processing Careers

Objective	Dimension
The student will:	
Identify the educational requirements for specific computer careers.	A
Identify courses and programs that aid in preparation for information processing careers.	A
Report and share information on a computer career.	A
Identify typical employers of information processing personnel.	A
Visit computer installations to identify computer-related career opportunities. Report and share information collected.	A

Note: Dimension Codes A = Awareness; F = Function; U = Critical Understanding
Status Code R = Review (covered in junior high course)
* Hands-on Required

BASIC LEARNING RESOURCES

Kelley, R. *World of Computers and Information Processing.* Rexdale, ON: John Wiley, 1982.

ISBN 0471799173

McRitchie, M. *Programming in BASIC: A Complete Course.* Toronto, ON: Holt, Rinehart and Winston of Canada Limited, 1982. [Modules 8–10]

ISBN 0039201481

Saunders, D. *Computers Today.* Second edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1985.

ISBN 0070547017

Shelley, Gary B. et al. *Introduction to Computers and Data Processing.* Scarborough, ON: Nelson Canada, 1980. [Modules 1, 8-10, 17]

ISBN 0882361155

The courses in this section will be revised over the next few years. Information regarding basic learning resources may not be complete or current. Consult your Learning Resources Distributing Centre's *Buyers Guide* for current information.

If you require additional information, please contact Sharon Prather, Alberta Education, Curriculum Branch, Edwards Building, 10053 – 111 Street, Edmonton, Alberta. Telephone 427–2984. Fax 422–3745. Mailing address: Devonian Building, West Tower, 11160 Jasper Avenue, Edmonton, Alberta, T5K 0L2.

FINE ARTS

CONTENTS

Art [general]

Art 10–20–30

Art 11–21–31

Drama 10–20–30

Music
  Choral — Music 10–20–30
  Instrumental — Music 11–21–31
  General — Music 12

ART

GENERAL INTRODUCTION

PHILOSOPHY

Art education is concerned with the **organization of visual material**. A primary reliance upon visual experience gives an emphasis that sets it apart from the performing arts. Acquiring proficiency in art requires systematic instruction in **how we see, interpret and make sense of visual stimuli**. It requires an understanding of how others interpret the visual messages which are products of this kind of activity. It requires an education in the use of traditional and contemporary tools, materials and media.

Art education is concerned with **having individuals think and behave as artists**. For the purposes of art education, the term "artist" is equally valid to describe one who has worked for a lifetime or someone who is a relative beginner. Ultimately, art is accessible to all individuals. Its practice results in changing the individual, in changing the relationship among individuals, or in changing the social/physical environment.

Art education is concerned with **pointing out the values that surround the creation and cherishing of art forms**. Art is not merely created, it is valued. The relative values given to art products not only tell us about those who produce them, but introduce notions of how values have changed over time. Learning to see gives us the means to view the works of others and perhaps to relate that to our own works. In this case, however, searching for organization may be helped by knowledge about other people's priorities.

Art education deals with **ways in which people express their feelings in visual forms**. Art takes the human condition as the focus of study. Persons involved in the visual arts reflect upon and externalize their personal feelings and intuitions or those of their fellow human beings. As artists, they share this ability with the writer, the poet and the musician. In making parallels and discovering relationships with the performing and literary arts we gain a sense of common purpose.

Art education deals with **making and defending qualitative judgments about artworks**. Becoming a perceptive critic attunes the individual to the unique contribution of the artist. By adopting the stance of critic we can develop methods of qualitative differentiation. We gain a sense that not all art is the same, and we are able to articulate reasons for preferring one work over another.

INTRODUCTION TO SENIOR HIGH SCHOOL ART PROGRAMS

The senior high art program offers six courses divided into two patterns or sequences: the general art program — **Art 10-20-30**, and the art studies program — **Art 11-21-31**.

The series of general art courses — Art 10-20-30 — is a unified, sequential program with common goals that span the entire secondary program and focus on three major components of visual learning: **Drawings** or delineations; **Compositions** or structures; and **Encounters** with art. This sequence of courses has a significant studio component.

Art studies is a three-level series — Art 11-21-31 — designed as a sequence of visual experiences intended to provide the student with a knowledge base in the discipline of art, with an emphasis on the student as perceptive critic, consumer and historian. It is a course in understanding images, not creating them. It is a study of culture through images designed to take the student from consideration of his or her own experiences with art, through an historical analysis of art forms, to a more global investigation of art in the emerging culture.

Senior high art courses may be offered for 3, 4 or 5 credits, with the exception of Art 30 and 31 which must be offered for 5 credits.

GENERAL ART COURSES 10–20–30

Goals and Objectives

From the general philosophy statement, a series of goals have been drawn. They are set in three categories and provide the framework for the Alberta art program in Grades 7 through 12.

Drawings

Students will:

1. Acquire a repertoire of approaches to recording visual information.
2. Develop the ability to investigate visual relationships in their recorded images and in the environment.
3. Express technical competencies and individual insights.
4. Apply visual, analytical and critical skills, and develop control and competency.

Compositions

Students will:

1. Develop competence with the components of images: media, techniques and design elements.
2. Analyze the relationships among components of images.
3. Express meaning through control of visual relationships.

Encounters

Students will:

1. Investigate natural forms, human-made forms, cultural traditions and social activities as sources of imagery through time and across cultures.
2. Understand that the role and form of art differs through time and across cultures.
3. Understand that art reflects and affects cultural character.

Overview of Art 10–20–30

The general art program for Grades 7 through 12 is a unified, sequential course that focuses on three major components of visual learning:

Drawings or delineations
- all the ways we record visual information and discoveries

Compositions or structures
- all the ways images are put together to create meaning

Encounters with art
- where we meet and how we respond to visual imagery.

Since each of these divisions requires specific strategies to convey meaning, the courses for Grades 7 to 12 emphasizes these skills. The three divisions are present throughout the entire sequence of Art 7, 8, 9, 10, 20 and 30 and form the basis for the organization of objectives and concepts for each grade level.

More specifically, **Drawings** encompasses the recording, investigating, communicating, evaluating and articulating aspects of making images. **Compositions** deals with the organizations, components and relationships involved in the creation of images. **Encounters** involves looking at images and artifacts: the sources of images (finding ideas for making art), transformations through time (learning about the art of other times and changing imagery), and the impact of images (learning to understand and appreciate the purposes and effects of art). Each of these aspects of **Drawings**, **Compositions** and **Encounters** can be seen to correspond to a program goal, and each has specific objectives associated with it for each grade level.

The first section of the program contains the **Scope and Sequence** charts of objectives for each grade, separated into **Drawings**, **Compositions** and **Encounters**. These charts show the sequential, developmental nature of learning in these three areas from grade to grade and illustrate the relationships between the sections for each grade level.

The next section of the program contains the objectives and concepts for each grade level. Objectives and concepts need not be approached separately or sequentially, as presented within a grade. Rather, they should be ordered and grouped according to the individual teaching situation. The objectives and concepts presented are designed to be a basic program at each grade level. All concepts should be touched upon in each year's program; however, the extent to which any concept is combined, extended or summarized is a teacher decision. It is important to stress that teachers should integrate and balance all three approaches — **Drawings**, **Compositions** and **Encounters** — in their program.

Since a large component of an art program involves **media** by which we make thought visible through images, it should be noted that this program leaves the choices of media and the associated techniques up to the teacher. It is expected that teachers will use media of their choice, but students should have opportunities to work in both two- and three-dimensions at each level of the program.

Required/Elective

In each senior high course, the content of which is required to be taught, are the objectives (e.g., Components 1 or Organizations 1) and at least one concept that is supportive of each objective. The remaining concepts are part of the elective portion of each course and may be taught at the discretion of the teacher and depending on whether the course is being offered for 3, 4 or 5 credits.

SCOPE AND SEQUENCE — OBJECTIVES

Drawings

Drawing is a visual search for meaning. Using a variety of materials and techniques, drawing is an individual, expressive response to some specific experience. Such experience may come from the individual or the group, or may result from a problem to be solved, or from direct inquiry.

	ART 10	ART 20	ART 30
	Students will:	***Students will:***	***Students will:***
Record *STUDENTS WILL ACQUIRE A REPERTOIRE OF APPROACHES TO RECORD VISUAL INFORMATION.*	– combine description, expression and cognition in the drawing process	– draw for confidence and consolidation of head-to-hand skills	– achieve personal style
Investigate *STUDENTS WILL DEVELOP THE ABILITY TO INVESTIGATE VISUAL RELATIONSHIPS IN THE ENVIRONMENT AND IN THEIR RECORDED IMAGES.*	– develop and refine drawing skills and styles	– develop and refine drawing skills and styles	– develop and refine drawing skills and styles
Communicate *STUDENTS WILL EXPRESS PERSONAL VISUAL COMPETENCIES AND INSIGHTS.*	– investigate varieties of expression in making images	– explore a personal selection of expressions	– exhibit a personal style through in-depth studies
Articulate and Evaluate *STUDENTS WILL APPLY VISUAL, ANALYTICAL AND CRITICAL SKILLS AND DEVELOP CONTROL AND COMPETENCY.*	– use the vocabulary and techniques of art criticism to analyze their own works	– use the vocabulary and techniques of art criticism to interpret and evaluate both their own works and the works of others	– use the vocabulary and techniques of art criticism to analyze and evaluate their own works in relation to the works of professional artists

SCOPE AND SEQUENCE — OBJECTIVES (continued)

Compositions

Composition is a search for a unified visual statement. It articulates meaning through control of elements and their relationships. The student organizes visual material to generate thought and to make thought visible.

	ART 10	ART 20	ART 30
	Students will:	*Students will:*	*Students will:*
Components *STUDENTS WILL BECOME FAMILIAR WITH THE COMPONENTS OF IMAGES, MEDIA TECHNIQUES AND DESIGN ELEMENTS.*	– extend their knowledge of and familiarity with the elements and principles of design through practise in composing two- and three-dimensional images – solve teacher-directed problems of unity and emphasis in creating compositions	– use non-traditional approaches to create compositions in both two and three dimensions	– use personal experiences as sources for image making
Relationships *STUDENTS WILL ANALYZE THE RELATIONSHIPS AMONG COMPONENTS OF IMAGES.*	– solve teacher-directed spatial problems of movement and direction in the creation of compositions – use the vocabulary of art criticism to develop and accept analyses of their own works	– solve teacher- and student-developed problems by varying the dominance of design elements for specific visual effects – use the vocabulary and techniques of art criticism to interpret and evaluate both their own works and the works of others	– develop and solve design problems – use the vocabulary and techniques of art criticism to analyze and evaluate their own works in relation to the works of professional artists
Organizations *STUDENTS WILL EXPRESS MEANING THROUGH CONTROL OF VISUAL RELATIONSHIPS.*	– experiment with various representational formats – be conscious of the emotional impact that is caused and shaped by a work of art	– demonstrate control over various components of compositions	– develop a portfolio of works that will represent their personal style

SCOPE AND SEQUENCE — OBJECTIVES (continued)

Encounters

Art making articulates thought and imagination. Through images, we communicate with one another within our communities and across time and cultures. Encounters with the sources, transformations and impact of images are essential for understanding art.

	ART 10	ART 20	ART 30
	Students will:	***Students will:***	***Students will:***
Sources of Images *STUDENTS WILL INVESTIGATE NATURAL FORMS, HUMAN-MADE FORMS, CULTURAL TRADITIONS AND SOCIAL ACTIVITIES AS SOURCES OF IMAGERY THROUGH TIME AND ACROSS CULTURES.*	– investigate the process of abstracting form from a source in order to create objects and images	– recognize that while the sources of images are universal, the formation of an image is influenced by the artist's choice of medium, the time and the culture	– research selected artists and periods to discover factors in the artists' environments that influenced their personal visions
Transformations Through Time *STUDENTS WILL UNDERSTAND THAT THE ROLE AND FORM OF ART DIFFERS THROUGH TIME AND ACROSS CULTURES.*	– compare the image content of certain periods	– investigate the impact of technology on the intentions and productions of the artist	– analyze the factors that generate a work of art, or an artistic movement: the experiences of the artists and the impact of the culture
Impact of Images *STUDENTS WILL UNDERSTAND THAT ART REFLECTS AND AFFECTS CULTURAL CHARACTER.*	– become aware of the relationship between function and form in artistic productions	– acquire a repertoire of visual skills useful for the comprehension of different art forms	– question sources of images that are personally relevant or significant to them in contemporary culture

ART 10-20-30

ART 10

DRAWINGS

Students will:

Record

COMBINE DESCRIPTION, EXPRESSION AND COGNITION IN THE DRAWING PROCESS.

Concepts

A. Subject matter and expressive intention can be depicted with a variety of notational marks.
B. The expressive content of drawings is affected by the drawing media selected.

Investigate

DEVELOP AND REFINE DRAWING SKILLS AND STYLES.

Concepts

A. A change in drawing techniques can express a different point of view about the same subject matter.
B. Tactile qualities of surfaces can be rendered through controlled use of line.
C. Linear perspective is a representational device that gives the illusion of three-dimensional pictorial space.

D. Natural forms can be used as sources of abstract images and designs.

Communicate

INVESTIGATE VARIETIES OF EXPRESSION IN MAKING IMAGES.

Concepts

A. Drawings can express the artist's concern for social conditions.
B. A drawing can be a formal, analytical description of an object.

Articulate and Evaluate

USE THE VOCABULARY AND TECHNIQUES OF ART CRITICISM TO ANALYZE THEIR OWN WORKS.

Concepts

A. Discussing the components of composition is part of learning to talk about art.

COMPOSITIONS

Students will:

Components 1

EXTEND THEIR KNOWLEDGE OF AND FAMILIARITY WITH THE ELEMENTS AND PRINCIPLES OF DESIGN THROUGH PRACTISE IN COMPOSING TWO- AND THREE-DIMENSIONAL IMAGES.

Concepts

A. Colour and value concepts are important components of an artist's compositional skill.
B. Positive and negative space are essential to the description of two- and three-dimensional forms.

Components 2

SOLVE TEACHER-DIRECTED PROBLEMS OF UNITY AND EMPHASIS IN CREATING COMPOSITIONS.

Concepts

A. Compositions use positioning and grouping of subjects for different meanings and emphasis.
B. Unity is achieved by controlling the elements of a composition within the picture plane.

Relationships 1

SOLVE TEACHER-DIRECTED SPATIAL PROBLEMS OF MOVEMENT AND DIRECTION IN THE CREATION OF COMPOSITIONS.

Concepts

A. Movement, rhythm and direction are used in recording humans and their activities.

Relationships 2

USE THE VOCABULARY OF ART CRITICISM TO DEVELOP AND ACCEPT ANALYSES OF THEIR OWN WORK.

Concepts

A. Describing and discussing media and techniques used in one's own works will develop vocabulary.

B. Describing and discussing components of design are part of the process of analyzing one's own work.

Organizations 1

EXPERIMENT WITH VARIOUS REPRESENTATIONAL FORMATS.

Concepts

A. Various materials alter representational formats and processes used in achieving certain intended effects.

Organizations 2

BE CONSCIOUS OF THE EMOTIONAL IMPACT THAT IS CAUSED AND SHAPED BY A WORK OF ART.

Concepts

A. Image making is a personal experience created from ideas and fantasies.
B. Mood is created by tools like atmospheric perspective.

ENCOUNTERS

Students will:

Sources of Images

INVESTIGATE THE PROCESS OF ABSTRACTING FORM FROM A SOURCE IN ORDER TO CREATE OBJECTS AND IMAGES.

Concepts

A. Artists simplify, exaggerate and rearrange parts of objects in their depictions of images.
B. Artists select from natural forms in order to develop decorative motifs.

Transformations Through Time

COMPARE THE IMAGE CONTENT OF CERTAIN PERIODS.

Concepts

A. Works of art contain themes and images that reflect various personal and social conditions.
B. Technology has an affect on materials used in image making.

Impact of Images

BECOME AWARE OF THE RELATIONSHIP BETWEEN FUNCTION AND FORM IN ARTISTIC PRODUCTIONS.

Concepts

A. Simplified form communicates the purpose and function of designed objects.
B. The function of an artwork can be emphasized by its decoration.

ART 20

DRAWINGS

Students will:

Record

DRAW FOR CONFIDENCE AND CONSOLIDATION OF HEAD-TO-HAND SKILLS.

Concepts

A. Sketching and composing skills can be developed by drawing from representational sources.
B. Developing expertise in one particular drawing medium may further develop personal competence.
C. Combining mental images and representational images in drawing may provide a challenge to an individual's drawing skills.

Investigate

DEVELOP AND REFINE DRAWING SKILLS AND STYLES.

Concepts

A. Points of view can vary according to the expressive purposes of the drawing.
B. Partial delineations demonstrate a control of space and form by the use of implied line.
C. Control of proportion and perspective enhances the realism of subject matter in drawing.

Communicate

EXPLORE A PERSONAL SELECTION OF EXPRESSIONS.

Concepts

A. Personally selected themes can provide images for expressive drawing investigations.

Articulate and Evaluate

USE THE VOCABULARY AND TECHNIQUES OF ART CRITICISM TO INTERPRET AND EVALUATE BOTH THEIR OWN WORKS AND THE WORKS OF OTHERS.

Concepts

A. Understanding styles or artistic movements related to visual studies is part of developing critical abilities.
B. Discussing the compositional relationships and effectiveness of components is part of learning to interpret one's own artwork.
C. Identifying similarities in artworks can enhance interpretive discussions of concerns, themes, subjects or treatments.

COMPOSITIONS

Students will:

Components

USE NON-TRADITIONAL APPROACHES TO CREATE COMPOSITIONS IN BOTH TWO AND THREE DIMENSIONS.

Concepts

A. The use of non-traditional media affects the development of a two- or three-dimensional object.
B. The exploration of existing technology may influence the development of two- and three-dimensional images.
C. Chance occurrences or accidental outcomes can influence the making of a work of art.

Relationships 1

SOLVE TEACHER- AND STUDENT-DEVELOPED PROBLEMS BY VARYING THE DOMINANCE OF DESIGN ELEMENTS FOR SPECIFIC VISUAL EFFECTS.

Concepts

A. Meaning in composition is affected by reversing or distorting positive and negative elements.
B. Exaggerating, distorting and rearranging parts of images are means of solving visual problems.
C. Shifting perspective or changing the point of view are means of solving visual problems.

Relationships 2

USE THE VOCABULARY AND TECHNIQUES OF ART CRITICISM TO INTERPRET AND EVALUATE BOTH THEIR OWN WORKS AND THE WORKS OF OTHERS.

Concepts

A. Meaning is expressed in works of art through subject choice, media selection and design element emphasis.
B. Art forms may be classified according to stylistic characteristics.

Organizations

DEMONSTRATE CONTROL OVER VARIOUS COMPONENTS OF COMPOSITIONS.

Concepts

A. Developing several approaches to a single problem can demonstrate a refinement of organization and structure in composition.
B. An important aim of the artist is to develop compositional skills.

ENCOUNTERS

Students will:

Sources of Images

RECOGNIZE THAT WHILE THE SOURCES OF IMAGES ARE UNIVERSAL, THE FORMATION OF AN IMAGE IS INFLUENCED BY THE ARTIST'S CHOICE OF MEDIUM, THE TIME AND THE CULTURE.

Concepts

A. Different periods of history yield different interpretations of the same subject or theme.
B. Artists and craftspeople use the possibilities and limitations of different materials to develop imagery.
C. Different cultures exhibit different preferences for forms, colours and materials in their artifacts.

Transformations Through Time

INVESTIGATE THE IMPACT OF TECHNOLOGY ON THE INTENTIONS AND PRODUCTIONS OF THE ARTIST.

Concepts

A. The adoption of a new medium will effect change in an artist's work.
B. Technology has an impact on the artist's role in modern society.
C. Technology has an affect on materials and imagery used in modern sculpture and painting.

Impact of Images

ACQUIRE A REPERTOIRE OF VISUAL SKILLS USEFUL FOR THE COMPREHENSION OF DIFFERENT ART FORMS.

Concepts

A. The relationships of different features of a work of art may be compared to the total effect of the work.
B. Artists depict subjects from different points of view.
C. Throughout history, a wide range of media and techniques have been used to make art.

ART 30

DRAWINGS

Students will:

Record

ACHIEVE PERSONAL STYLE.

Concepts

A. Individual treatments of subject or thematic matter may serve to identify individual artists.

Investigate

DEVELOP AND REFINE DRAWING SKILLS AND STYLES.

Concepts

A. A repertoire of drawing techniques is needed to express visual ideas.
B. Explorations of a technical or creative nature may lead individuals into highly personalized work sessions.

Communicate

EXHIBIT A PERSONAL STYLE THROUGH IN-DEPTH STUDIES.

Concepts

A. Recording the development of visual ideas in a consistent manner is a part of developing personal style.
B. A series of complete compositions presented for public display provides a visual statement about an artist.

Articulate and Evaluate

USE THE VOCABULARY AND TECHNIQUES OF ART CRITICISM TO ANALYZE AND EVALUATE THEIR OWN WORKS IN RELATION TO THE WORKS OF PROFESSIONAL ARTISTS.

Concepts

A. An understanding of major 20th century artists and movements adds to the ability to evaluate one's own work.
B. Identification of similarities and differences between the students and professional artists enhances analysis of their own work.
C. The ability to discriminate between subjective response and an analytic response enhances analysis of one's own work.

COMPOSITIONS

Students will:

Components

USE PERSONAL EXPERIENCES AS SOURCES FOR IMAGE MAKING.

Concepts

- A. The selection and presentation of perceptions, conceptions and experience as visual content for artworks is an important aim of the artist.
- B. Planned and spontaneous methods of working are ways of developing visual images.
- C. Colour modifies the experience or idea presented in visual form.

Relationships 1

DEVELOP AND SOLVE DESIGN PROBLEMS.

Concepts

- A. Individually devised or discovered design problems may lead to highly personalized works.

Relationships 2

USE THE VOCABULARY AND TECHNIQUES OF ART CRITICISM TO ANALYZE AND EVALUATE THEIR OWN WORKS IN RELATION TO THE WORKS OF PROFESSIONAL ARTISTS.

Concepts

- A. Criteria such as originality, organization, technique, function and clarity of meaning may be applied in evaluating works of art.
- B. Artworks may be analyzed for personal, social, historic or artistic significance.

Organizations

DEVELOP A PORTFOLIO OF WORKS THAT WILL REPRESENT THEIR PERSONAL STYLE.

Concepts

- A. Artistic concerns and styles will determine the conception and the organization of images.
- B. Personal preferences for a medium influence visual problem-solving methods.

ENCOUNTERS

Students will:

Sources of Images

RESEARCH SELECTED ARTISTS AND PERIODS TO DISCOVER FACTORS IN THE ARTISTS' ENVIRONMENTS THAT INFLUENCED THEIR PERSONAL VISIONS.

Concepts

- A. Personal situations and events in artists' lives affect their personal visions and work.
- B. Historical events and society's norms have an affect on an artist's way of life and work.

Transformations Through Time

ANALYZE THE FACTORS THAT GENERATE A WORK OF ART, OR AN ARTISTIC MOVEMENT: THE EXPERIENCES OF THE ARTISTS AND THE IMPACT OF THE CULTURE.

Concepts

- A. A specific artistic movement and its works of art are influenced by the members' philosophic theme, stylistic identity and relationship to the community in which they exist.
- B. A specific artistic movement and its works of art influence later artistic movements.

Impact of Images

QUESTION SOURCES OF IMAGES THAT ARE PERSONALLY RELEVANT OR SIGNIFICANT TO THEM IN CONTEMPORARY CULTURE.

Concepts

- A. Imagery can depict an important local, political or social issue.
- B. Imagery can depict important aspects of the student's own life.

BASIC LEARNING RESOURCES

Print

Drawing Component

Simmons, Seymour. *Drawing: The Creative Process.* Englewood Cliffs, NJ: Prentice-Hall, 1977.

ISBN 0132193604

Compositions Component

Ocvirk, O. et al. *Art Fundamentals: Theory and Practice.* Fifth edition. Dubuque, IO: Wm. C. Brown, 1985.

ISBN 0697033163

Encounters Component

Richardson, John Adkins. *Art: The Way It Is.* Third edition. Englewood Cliffs, NJ: Prentice-Hall, 1986.

ISBN 013046533X

Video Laserdisc

Sightlines: A Visual Encyclopedia for the Arts, Sciences and Humanities. Alberta Education, 1987.

Video Laserdisc [S5054]
Catalogue [S5055]

Slides

Art 10 Packet. Alberta Education [S3289].

Art 20 Packet. Alberta Education [S3286].

Art 30 Packet. Alberta Education [S3287].

ART 11-21-31

OVERVIEW

Designed to complement the **Art 10-20-30** courses in high school, **Art 11-21-31** examines the role art plays in people's lives, how it comes into being, and how people respond to it. This series of courses is designed to expand the opportunities for study in art in the high schools. It is intended to help provide needed accessibility, relevance and flexibility to the teaching of art in Alberta high schools.

Art 11-21-31 is a series of three courses unified by general goals that focus on three major components of learning in visual art:

Function:	The ways visual imagery is used to express, shape and reflect values, beliefs and conflicts in society.
Creation:	The achievements of artists in the past and present, including their ways of working.
Appreciation:	Opportunities to perceive and respond to visual qualities in works of art.

Ten goals identified with these three components are the basis for objectives and concepts at each level. Each course uses the components as a framework and treats them through a different approach.

PHILOSOPHY

Art education is concerned with the **organization of visual material**. A primary reliance upon visual experience sets art education apart from the performing arts. Acquiring proficiency in art requires systematic instruction in **how we see, interpret and make sense of visual stimuli**. It requires an understanding of how others interpret the visual messages that are products of this kind of activity. It requires an education in the use of traditional and contemporary tools, materials and media.

Art education is concerned with **having individuals think and behave as artists.** For the purpose of art education, the term "artist" is equally valid to describe one who has worked for a lifetime or someone who is a relative beginner. Ultimately, art is accessible to all individuals. Its practice results in changing the individual, in changing the relationship among individuals or in changing the social/physical environment.

Art education is concerned with **pointing out the values that surround the creation and cherishing of art forms**. Art is not merely created, it is valued. The relative values given to art products not only tell us about those who produce them, but introduce notions of how values have changed over time. Learning to see gives us the means to view the works of others and perhaps to relate them to our own works. In this case, however, searching for organization may be helped by knowledge about other people's priorities.

Art education deals with **ways in which people express their feelings in visual forms**. Art takes the human condition as the focus of study. Persons involved in the visual arts reflect upon and externalize their personal feelings and intuitions or those of their fellow human beings. As artists, they share this ability with the writer, the poet and the musician. In making parallels and discovering relationships with the performing and literary arts, the art student gains a sense of common purpose.

Art education deals with **making and defending qualitative judgments about artworks**. Becoming a perceptive critic attunes the individual to the unique contribution of the artist. By adopting the stance of critic, methods of qualitative differentiation can be developed. The art student gains a sense that not all art is the same and is able to articulate reasons for preferring one work over another.

RATIONALE

Art 11-21-31 is a sequence of experiences intended to provide an opportunity for all students to gain knowledge in the discipline of art, with an emphasis on the student as perceptive critic, consumer and historian.

It is recognized that all students at the high school level do not wish to make art, but all should have an opportunity to become knowledgeable about it. Not everyone needs to make art, as not everyone needs to write novels or poems, yet as they enjoy reading, so they can enjoy art. As a need can be seen for informed members of society to be able to comprehend and appreciate written information, so a case can be made for a need to understand images.

The courses in the **Art 11-21-31** program will enable students to achieve a greater level of cultural understanding of the creation of art by developing critical skills, and an appreciation of the role of art and artists in historical and contemporary society. The three consecutive levels of this program are designed to take students from consideration of their own experiences with art, through an historical analysis of art forms, to a more global investigation of art in contemporary culture.

THE COURSES

Art 11

This course surveys the role of the artifact in everyday life. Students will consider predominant themes conveyed by art forms. They will also consider the role of the artist and the artist's use of materials and processes methods of critical analysis, and understanding of people's varied approaches to appreciating artworks. This course emphasizes the student's immediate culture and environment. It is designed to meet the needs of all students who have an interest in learning about art and complements the **encounters, goals** and **objectives** of Art 10-20-30.

Art 21

This course surveys the history of art in Western culture. It examines changes in the function of art, in the role and influence of artists, and in culture; all of which effect changes in artifacts over time. It emphasizes the changing view of art throughout history.

Art 31

This course examines the impact of international influences and modern technology on modern art and, in turn, modern art's impact on society. It emphasizes the contemporary point of view of society.

GENERAL GOALS — ART STUDIES 11-21-31

Function	Creation	Appreciation
1. The student will understand that art serves various symbolic, descriptive and decorative purposes in society.	1. The student will understand the role of the artist in the creation of artifacts.	1. The student will develop a personal approach to the appreciation of artifacts.
2. The student will understand that the role, form and value of art differs through time and across cultures.	2. The student will understand the role of culture in the creation of artifacts.	2. The student will analyze the affective power of artifacts over time and across cultures.
3. The student will understand that art reflects and affects cultural character.	3. The student will investigate the concept of style as it affects the creation of artifacts.	3. The student will analyze personal responses to visual imagery.
	4. The student will become aware of how artists work with the components of artifacts: media, techniques and visual elements.	

FOCUS

Function	Creation	Appreciation
What are the ways visual imagery is used to express, shape and reflect the values, beliefs and conflicts in society?	How are the achievements of artists in the past and present identified, including the particular ways they engage in expressive activity?	How can the student be given opportunities to perceive and respond to visual qualities in works of art?

SCOPE AND SEQUENCE — OBJECTIVES

Function of Art

What are the ways visual imagery is used to express, shape and reflect the values, beliefs and conflicts in society?

Art 11: The Power of the Artifact *Function: Purpose of Artifacts*	**Art 21: Time Evolution of the Power of Art** *Function: The Changing Role of Art in Society*	**Art 31: The Contemporary Artifact** *Function: The Impact of World Culture on the Purpose of Art*
Students will:	***Students will:***	***Students will:***
1. consider artifacts that convey different themes, meanings, beliefs and values of people in various times and cultures	1. observe the changes in symbols and their meaning in art over time	1. consider the sources of changing purpose and imagery in the art of our time
2. become aware of the use of artifacts for describing and recording phenomena	2. consider the changing values placed on different art forms over time	2. consider the subjective and expressive currents in the art of our time
3. become aware of the function of artifacts for the visual enhancement of people and their environment.	3. identify changes over time in the ways people use art	3. consider the rational-formalist currents in the art of our time
	4. consider the emerging value of historic artifacts.	4. consider the impact of technology on the purpose of art.

Creation of Art

How are the achievements of artists in the past and present identified, including the particular ways they engage in expressive activity?

Art 11: The Power of the Artifact *Creation of Artifacts*	**Art 21: Time Evolution of the Power of Art** *Creation: The Changing Profession of the Artist*	**Art 31: The Contemporary Artifact** *Creation: The Impact of Technology on the Creation of Art*
Students will:	***Students will:***	***Students will:***
1. consider the nature of artists' styles and their affect on the character of artifacts	1. investigate the role and influence of artists on their societies in different eras	1. observe the impact of technology on the creation of artifacts
2. consider the characteristic styles attributed to various cultures and historic periods as they affect the way that the culture or period is identified	2. consider the development of patronage as a factor in the role of the artist	2. consider the impact of technology on the style and role of the artist.
3. learn how artists work with media and acquire the ability to distinguish materials and processes used in various kinds of artifacts	3. examine and compare a series of works developed over a period of time by a particular artist.	
4. observe how artists achieve different effects using the elements and principles of composition.		

Appreciation of Art

How can the student be given opportunities to perceive and respond to visual qualities in works of art?

Art 11: The Power of the Artifact	**Art 21: Time Evolution of the Power of Art**	**Art 31: The Contemporary Artifact**
Appreciation: Analyzing the Power of Artifacts	*Appreciation: The Changing Form of Art in Society*	*Appreciation: Modern Art and Society*
Students will: 1. be able to describe and characterize visual features of artifacts, such as subjects, media and design 2. be able to analyze relationships among the visual features of artifacts (e.g., subject, medium and design) and to derive meaning from this analysis 3. consider how past experience influences personal reaction to a work of art 4. analyze what makes an artifact powerful over time and across cultures 5. become aware of the range and variety of forms of artistic expression.	***Students will:*** 1. compare art styles in different historical periods 2. compare aesthetic standards as they have changed over time 3. investigate changes in subject matter and sources of imagery over time.	***Students will:*** 1. examine how contemporary society acquires, appreciates and preserves artifacts 2. analyze various aspects of the modern artistic community 3. investigate the possibility of a characteristic Canadian style.

ART 11: THE POWER OF THE ARTIFACT

This course surveys the role of the artifact in everyday life. Students will consider predominant themes conveyed by art forms. They will also consider the role of the artist and the artist's use of materials and processes, methods of critical analysis, and understanding of people's varied approaches to appreciating artworks. This course emphasizes the student's immediate culture and environment. It is designed to meet the needs of all students who have an interest in learning about art and complements the **encounters, goals** and **objectives** of Art 10-20-30.

Objectives and Concepts

I. Function: Purpose of Artifacts

1. *Students will consider artifacts that convey different themes, meanings, beliefs and values of people in various times and cultures.*

   A. The themes of life and death are treated through artifacts such as tomb paintings, fertility gods, masks and totems and guardian figures.
   B. Themes of dreams and fantasies are treated through artifacts such as paintings, advertising art, science fiction and surrealism.
   C. Beliefs and deities are treated through artifacts such as monuments, icons and religious architecture.
   D. The themes of authority and power are treated through artifacts such as crowns, uniforms, flags, emblems and public architecture.
   E. Social position is identified through artifacts that symbolize office, profession, status, rank, degrees or honours, sexuality and heroism.
   F. Artifacts serve personal functions when they give adornment, indicate mourning, rites of passage or celebration, give protection, suggest ferocity or personal power.
   G. Art serves play and recreation functions, as in the design of objects used in games, such as chessmen, cards, dolls, puppets and toys.

2. *Students will become aware of the use of artifacts for describing and recording phenomena.*

   A. Artifacts can describe and record events.
   B. Artifacts can describe and record places.
   C. Artifacts can describe and record people.
   D. Artifacts can describe and record nature.
   E. Artifacts can describe and record traditions.
   F. Artifacts can describe and record ideas.

3. *Students will become aware of the function of artifacts for the visual enhancement of people and their environment.*

   A. Artifacts have the power to enhance ourselves.
   B. Artifacts have the power to enhance our communities.
   C. Artifacts have the power to enhance our homes and environment.

II. Creation of Artifacts

1. *Students will consider the nature of artists' styles and their affect on the character of artifacts.*

   A. The individual nature of style is used to identify the works of individual artists. Features of an artist's works make them recognizable as the products of that artist only.
   B. An artist's work changes in nature over his or her lifetime.

2. *Students will consider the characteristic styles attributed to various cultures and historic periods as they affect the way that the culture or period is identified.*

   A. Periods of art history can be identified by characteristic design features and styles.
   B. Comparisons between artifacts of two different cultures reveal distinguishing characteristics of style.

3. *Students will learn how artists work with media and acquire the ability to distinguish materials and processes used in various kinds of artifacts.*

   A. Artifacts contain evidence of techniques that comprise the skills of the artist.
   B. Colour is a powerful artistic tool; it affects both artist and viewer.

4. *Students will observe how artists achieve different effects using the elements and principles of composition.*

   A. The artist orders elements of design in developing a composition.
   B. The components of formal composition include principles and conventions of design.

III. Appreciation: Analyzing the Power of Artifacts

1. *Students will be able to describe and characterize visual features of artifacts, such as subjects, media and design.*

   A. Recognizing and describing the kind and the media of artifacts is part of understanding both historic and contemporary artifacts.
   B. Recognizing and describing the subject matter and design components of artifacts is part of understanding both historic and contemporary artifacts.

2. *Students will be able to analyze relationships among the visual features of artifacts (e.g., subject, medium and design) and to derive meaning from this analysis.*

   A. Making inferences about the meanings of artworks is part of the process of understanding both historic and contemporary artifacts.
   B. Developing the ability to classify works of art according to an analysis of style characteristics is part of the process of understanding both historic and contemporary artifacts.

3. *Students will consider how past experience influences personal reaction to a work of art.*

   A. A wide variation in preference for art forms or features of art can be found among individuals.
   B. Meaning in art work is perceived differently by people with different attitudes toward the subject matter.

4. *Students will analyze what makes an artifact powerful over time and across cultures.*

   A. The power or meaning of an artifact can be located in the artifact, its culture, its creator or its beholder.
   B. Different symbols and objects from different societies often have similar meanings.

5. *Students will become aware of the range and variety of forms of artistic expression.*

   A. Studying the styles and purposes of the range of contemporary artifacts is part of the process of becoming a knowledgeable viewer.

ART 21: TIME EVOLUTION OF THE POWER OF ART

This course surveys the history of art in Western culture. It examines changes in the function of art, in the role and influence of artists, and in culture; all of which effect changes in artifacts over time. It emphasizes the changing view of art throughout history.

Objectives and Concepts

I. Function: The Changing Role of Art in Society

1. *Students will observe the changes in symbols and their meaning in art over time.*
   - A. Art forms express changing interpretations of life-giving forces.
   - B. Art reflects a society's view of death.
   - C. A society's gods find expression in art forms.
   - D. Changing art forms can glorify authority and personify power.
2. *Students will consider the changing values placed on different art forms over time.*
   - A. The importance of sculpture changes as the power of the state increases.
   - B. Changes in painting reflect a society's values.
   - C. A society's values become visible in architecture.
   - D. Advances in technology increase the value of multiple images such as prints and photographs.
3. *Students will identify changes over time in the ways people use art.*
   - A. Art has been used to educate.
   - B. Art has been used to persuade.
   - C. Art has been used to record events.
   - D. Art has been used to enhance.
4. *Students will consider the emerging value of historic artifacts.*
   - A. The rarity and age of artifacts tend to increase their value in our culture.
   - B. Museums help to bestow value on artifacts.

II. Creation: The Changing Profession of the Artist

1. *Students will investigate the role and influence of artists on their societies in different eras.*
   - A. The social status of the artist has differed in different historical periods.
   - B. The concept of artistic individuality is specific to modern society.
2. *Students will consider the development of patronage as a factor in the role of the artist.*
   - A. Patronage practices of commissioning and paying artists to create works have affected the production and quality of works of art through time.
3. *Students will examine and compare a series of works developed over a period of time by a particular artist.*
   - A. An artist's style is identified by unique traits in that individual's work.
   - B. Artists' ways of working change throughout their lifetimes.
   - C. Artists are often influenced by the work of artists of the past as well as by their contemporaries.
   - D. Artists are often influenced by changing social conditions, political events and events in their personal lives, and these influences can be detected in changes in their work.

III. Appreciation: The Changing Form of Art in Society

1. *Students will compare art styles in different historical periods.*

   A. Much of the art of the ancient world emphasizes power.
   B. Western art helped to shape Christianity during the Middle Ages.
   C. During the Renaissance, art reflected a new humanism and individualism.

2. *Students will compare aesthetic standards as they have changed over time.*

   A. Baroque art emphasized the dramatic.
   B. Much of the art of the Romantic period idealized nature.
   C. The arts of the twentieth century tend to glorify change.

3. *Students will investigate changes in subject matter and sources of imagery over time.*

   A. Texts, traditions and religious beliefs provide subject matter for art.
   B. A nation's heroes and their heroic deeds are sources for changing imagery.
   C. Trade and commerce, technology and industry, create changes in subject matter.

ART 31: THE CONTEMPORARY ARTIFACT

This course examines the impact of international influences and modern technology on modern art and, in turn, modern art's impact on society. It emphasizes the contemporary point of view of society.

Objectives and Concepts

I. Function: The Impact of World Culture on the Purpose of Art

1. *Students will consider the sources of changing purpose and imagery in the art of our time.*

   A. Interest in non-Western cultures has provided new sources of imagery for twentieth century art.
   B. Modern attention to the inner self has provided new sources of imagery and purpose for art.
   C. Mass communication has affected the purpose of art in our time.
   D. The modern city is a new source of imagery for twentieth century art.
   E. The Canadian landscape has been an important source of imagery for Canadian artists of the twentieth century.

2. *Students will consider the subjective and expressive currents in the art of our time.*

   A. Artists challenge reason and reality with fantastic and enigmatic images.
   B. Artists strive to convey intuitive and spiritual elements in expressionist works.

3. *Students will consider the rational-formalist currents in the art of our time.*

   A. Artists have explored the properties of light and colour in abstract minimalist works.

   B. Machine-like precision, mechanization, speed and power have been the subjects of some modern works.
   C. Pop art and super realism represent the artist's attempt to extend the traditional concepts of painting and sculpture.

4. *Students will consider the impact of technology on the purpose of art.*

   A. Science and technology have provided new symbols and reasons for making art.

II. Creation: The Impact of Technology on the Creation of Art

1. *Students will observe the impact of technology on the creation of artifacts.*

   A. Skilled use of precision tools and machines affects the design of artworks.
   B. Availability of new media influences the ways in which artists work.
   C. New processes encourage innovative image making.

2. *Students will consider the impact of technology on the style and role of the artist.*

   A. Changing communications media have enlarged the role of the artist.

III. Appreciation: Modern Art and Society

1. *Students will examine how contemporary society acquires, appreciates and preserves artifacts.*

   A. Modern society values the preservation and display of artworks for public appreciation.
   B. Individuals collect art for a variety of reasons and in a variety of ways.
   C. Modern commerce has had a substantial affect on the ownership and valuation of artifacts in contemporary society.

2. *Students will analyze various aspects of the modern artistic community.*

   A. The modern artist's relationship with society is conditioned by many mediating institutions and agencies.

3. *Students will investigate the possibility of a characteristic Canadian style.*

   A. The question of a characteristic Canadian style is a frequent theme in Canadian art, literature and criticism.

CREDITS

Art 11 and 21 may be offered for 3, 4 or 5 credits. Art 31 is a 5-credit course.

BASIC LEARNING RESOURCES

Art 11

Print

Elsen, A. *Purposes of Art.* Fourth edition. Toronto, ON: Holt, Rinehart and Winston, 1981. [Teacher]

Richardson, John Adkins. *Art: The Way It Is.* Third edition. Englewood Cliffs, NJ: Prentice-Hall, 1986. [Student]

ISBN 013046533X

Video Laserdisc

Sightlines: A Visual Encyclopedia for the Arts, Sciences and Humanities. Alberta Education, 1987.

Video Laserdisc [S5054]
Catalogue [S5055]

Art 21

Print

Cunningham, L. and J. Reich. *Culture and Values.* Volumes I and II. Toronto, ON: Holt, Rinehart and Winston, 1982.

Janson and Janson. *A Basic History of Art.* Third edition. Englewood Cliffs, NJ: Prentice-Hall Inc., 1987.

Janson, H. W. *History of Art for Young People.* Second edition. New York, NY: Harry N. Abrams, Inc., 1983.

ISBN 0810907003

Video Laserdisc

Sightlines: A Visual Encyclopedia for the Arts, Sciences and Humanities. Alberta Education, 1987.

Video Laserdisc [S5054]
Catalogue [S5055]

Slides

Art 21 Packet. Alberta Education [S3288].

Art 31

Print

MacGregor, R. N. et al. *Canadian Art: Building a Heritage.* Scarborough, ON: Prentice-Hall Canada Inc., 1987.

ISBN 0131130102

Video Laserdisc

Sightlines: A Visual Encyclopedia for the Arts, Sciences and Humanities. Alberta Education, 1987.

Video Laserdisc [S5054]
Catalogue [S5055]

Slides

Art 31 Packet. Alberta Education [S4146].

DRAMA 10-20-30

A. PROGRAM RATIONALE AND PHILOSOPHY

RATIONALE FOR FINE ARTS

The fine arts embrace music, art and drama without obscuring their uniqueness. Each has a body of content, partly derived from tradition and partly developed from the insights and interests of those involved. Each has its own mode of expression and makes its own contribution to society, necessitating the inclusion of the arts as separate subject areas in the school program.

There are fundamental principles that apply to all three. Specifically, the student is involved as a creator, a performer, an historian, a critic and a consumer. Throughout the grades, an articulated fine arts program should enhance the depth and breadth of expression and intuitive response. The maturing student learns to appreciate, to understand, to create and to critique with discrimination products of the mind, the voice, the hand and the body.

PHILOSOPHY FOR DRAMA EDUCATION

Drama is both an art form and a medium for learning and teaching. It can develop the whole person — emotionally, physically, intellectually, imaginatively, aesthetically and socially — by giving form and meaning to experience through "acting out". It fosters positive group interaction as students learn to make accommodations in order to pursue shared goals.

Dramatic growth parallels the natural development of the student. This growth is fostered in an atmosphere that is non-competitive, cooperative, supportive, joyful yet challenging.

The overall goal of drama is to foster a positive self-concept in students by encouraging them to explore life by the assumption of roles and by the acquisition of dramatic skills. The imaginative exploration involves setting up a dramatic situation, "acting out" that situation, communicating within that situation and reflecting on the consequences. It is this reflection that provides the knowledge for self-development.

As students progress through the dramatic forms of expression at the secondary level, greater emphasis is placed upon the development of the individual as a creator, performer, historian, critic and patron. Here, the self-development and socialization processes of the student are extended by developing an appreciation of theatre as a traditional art form.

B. GOALS AND OBJECTIVES

GOAL I

To acquire knowledge of self and others through participation in and reflection on dramatic experience.

Objectives

For the following concepts (C), skills (S), and attitudes (A) *the student will*:

- develop a positive and realistic self-image (A)
- increase self-discipline (A)
- increase self-confidence (A)
- extend the ability to concentrate (S)
- extend physical and vocal capabilities (S)
- apply imaginative and creative thought to problem-solving situations (S)
- extend the ability to control and express emotions (S)
- sharpen observations of people, situations and the environment (S)
- demonstrate the ability to recall and use sensory information (S)
- demonstrate the ability to make considered decisions, act upon them and accept the results (S)
- demonstrate a sense of responsibility and commitment, individually and to the group (S)
- demonstrate the ability to initiate, organize and present a project within a given set of guidelines (S)
- develop a sense of inquiry and commitment to learning (S)
- demonstrate the ability to contribute effectively and constructively to the group process (S)
- extend understanding of, acceptance of and empathy for others (A/S)
- demonstrate respect for others — their rights, ideas, abilities and differences (S)
- demonstrate the ability to offer, accept, and reflect upon, constructive criticism. (S)

GOAL II

To develop competency in communication skills through participation in and exploration of various dramatic disciplines.

Objectives

For the following concepts (C), skills (S), and attitudes (A) *the student will*:

- develop techniques that enhance vocal and physical communication (S)
- develop the ability to select appropriate physical and vocal expression for feelings, ideas and images (S)
- extend the ability to give form and expression to feelings, ideas and images (S)
- be capable of creating and expressing a believable character from scripted and non-scripted material (S)
- participate in the theatrical style of realism as a basis for further exploration of theatrical styles (S/C)
- develop the ability to understand and apply the specific presentation techniques demanded by various dramatic forms (S/C)
- explore various approaches to analyzing a script for purposes of study and/or presentation (S)
- gain knowledge of disciplines that enhance dramatic process and product (C)
- demonstrate understanding of integration of disciplines to enrich a theatrical presentation. (C)

GOAL III

To develop an appreciation of drama and theatre as a process and art form.

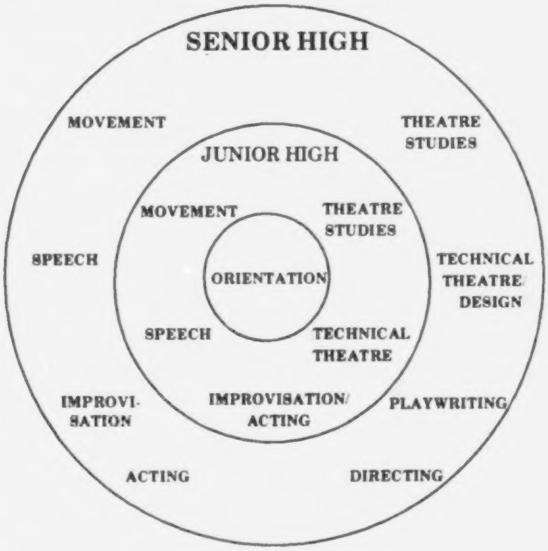
Objectives

For the following concepts (C), skills (S), and attitudes (A) *the student will*:

- explore various conventions and traditions of theatre (C)
- broaden knowledge of theatre by viewing as great a variety of theatrical presentations as possible (C)
- demonstrate the ability to assess critically the process and the art (S)
- demonstrate recognition of and respect for excellence in drama and theatre (A)
- develop an awareness of aesthetics in visual and performing arts. (A)

C. CONTENT

DISCIPLINES OF THE SENIOR HIGH DRAMA PROGRAM



Because students entering the drama program in senior high school may have a range of drama experience, orientation can be used as an effective bridge between junior and senior high school drama. Orientation may also be used diagnostically at any grade level when preliminary foundation work is required.

DISCIPLINES that Communicate	Possible Forms
MOVEMENT	tableau, creative movement, mime, dance drama, improvised dance, choreographed dance, stage fighting, clowning, mask
SPEECH	storytelling, oral interpretation, choral speech, radio plays
IMPROVISATION and ACTING	creative drama, planned improvisation, spontaneous improvisation, theatre sports, group drama, puppetry, collective, choric drama, readers' theatre, story theatre, scripted work, monologues, audition pieces, musical theatre, film/video, performance art

There are eight disciplines required in the Senior High Drama Program. The four disciplines that communicate are movement, speech, improvisation and acting. The four disciplines that enhance communication are theatre studies, technical theatre/design, playwriting and directing.

Within the disciplines that communicate, form refers to a mode of exploration that may end in presentation. Within the disciplines that enhance communication, component refers to a possible area of study. Exploration of as wide a variety of forms and components as possible is desirable. This variety allows the teacher and student to begin work in areas of comfort and expertise; at the same time, it challenges the teacher and student to investigate less familiar areas for program enhancement. Forms and components listed below are not meant to be inclusive or prescriptive.

Disciplines may either be integrated as appropriate or treated as separate units of study. Focus may vary according to the teacher's expertise, students' needs, school's philosophy, and facilities and budget.

DISCIPLINES that Enhance Communication	Possible Components
THEATRE STUDIES	the script, the performance, the theatre
TECHNICAL THEATRE/DESIGN	costume, lighting, makeup, management (business/ house/stage), properties, set, sound
PLAYWRITING	structure, scenario, scene, workshopping, the play
DIRECTING	picturization, directorial concept, composition

SCOPE AND SEQUENCE

The Senior High Drama Program consists of Drama 10, 20 and 30. Drama 10 and 20 can be offered for 3 or 5 credits. Drama 30 can be offered for 5 credits only. Three-credit courses have been designed for 75 hours and 5-credit courses for 125 hours. The Drama 10 courses are prerequisites for the Drama 20 courses, and Drama 20 courses are prerequisites for Drama 30.

Learner expectations have been identified for each of the eight disciplines included in the Senior High Drama Program. The learner expectations are accomplished through work in a variety of forms and components. One of the disciplines, Technical Theatre/Design, includes learner expectations for seven different components.

Drama teachers recognize the value and necessity of preliminary assessment and atmosphere-setting activities with students, before commencing more in-depth work on the disciplines. Orientation must be addressed in Drama 10 and reinforced in Drama 20 and Drama 30.

The required learner expectations for 3-credit Drama 10 and 20, and 5-credit Drama 30, are identified in the chart below.

	DRAMA 10 **3 credits**	**DRAMA 20** **3 credits**	**DRAMA 30** **5 credits**
Disciplines	**Learner Expectations**	**Learner Expectations**	**Learner Expectations**
	ORIENTATION	**ORIENTATION**	**ORIENTATION**
MOVEMENT	**1–24**		
SPEECH	**1–14** →	**15–21** →	**22–24**
IMPROVISATION	**1–32** →	**33–36** →	**37–38**
ACTING		**1–17** →	**18–22**
THEATRE STUDIES			**4–6**
TECH. TH./DESIGN	Any one component with all learner expectations	Any one component with all learner expectations	Any two components with all learner expectations
PLAYWRITING		**1–13**	
DIRECTING			**1–10**

The 5-credit courses in Drama 10 and 20 have additional learner expectations from two disciplines, Theatre Studies and Technical Theatre/Design. The additional requirements for 5 credits are:

- Drama 10: Theatre Studies – learner expectations 1 and 2
  and Technical Theatre/Design – one component with all learner expectations (total of two components).
- Drama 20: Theatre Studies – learner expectation 3
  and Technical Theatre/Design – one component with all learner expectations (total of two components).

The required learner expectations for 5-credit Drama 10 and 20, and 5-credit Drama 30 are identified in the chart below.

	DRAMA 10 **5 credits**	**DRAMA 20** **5 credits**	**DRAMA 30** **5 credits**
Disciplines	**Learner Expectations**	**Learner Expectations**	**Learner Expectations**
	ORIENTATION	**ORIENTATION**	**ORIENTATION**
MOVEMENT	**1–24**		
SPEECH	**1–14**	**15–21**	**22–24**
IMPROVISATION	**1–32**	**33–36**	**37–38**
ACTING		**1–17**	**18–22**
THEATRE STUDIES	**1–2**	**3**	**4–6**
TECH. TH./DESIGN	Any two components with all learner expectations	Any two components with all learner expectations	Any two components with all learner expectations
PLAYWRITING		**1–13**	
DIRECTING			**1–10**

LEARNER EXPECTATIONS

Orientation

Orientation is the introduction of basic concepts, skills and attitudes in drama that should be addressed before commencing more in-depth work in the eight disciplines covered in the senior high program. Orientation must be taught in Drama 10 and reinforced in Drama 20 and Drama 30. It is recommended that orientation be the first area of study covered. Teachers may wish to step back into orientation from time to time, as the need arises.

Orientation is of utmost importance for the following reasons:

- Transition — Orientation aids in the transition from the junior high to the senior high drama curriculum. It addresses the variety of developmental growth of adolescents.

- Equalization — There are no prerequisites for Drama 10. Therefore, it is essential that students are involved in orientation activities that help to establish a common starting point for the class.

- Diagnosis — Throughout orientation, the teacher will be diagnosing the students in order to plan a program that will best meet their needs. The diagnosis done in orientation will identify the most appropriate discipline(s) for initial exploration.

- Motivation — Orientation should involve students in interesting, challenging and enjoyable activities that will stimulate them to participate with enthusiasm in the drama program.

Drama 10

The student will be able to:

- Demonstrate willingness to challenge and extend oneself: physically, emotionally, intellectually and artistically.
- Share ideas confidently.
- Demonstrate behaviour appropriate to given circumstances.
- Concentrate on the task at hand.
- Demonstrate effective use and management of time.
- Listen to self and others.
- Recognize that values are expressed through the arts.
- Solve problems imaginatively and creatively.
- Make effective decisions or choices.
- Demonstrate trust by becoming comfortable with others, physically and emotionally.
- Display consideration and respect for self and others.
- Positively support the work of others.
- Cope with success and failure in positive ways.
- Work with abstract concepts.
- Demonstrate self-discipline, self-direction and a sense of responsibility.
- Work cooperatively and productively.
- Offer and accept constructive criticism with a desire to progress.

Movement

Movement is non-verbal physical expression. The development of a responsive and expressive body is enhanced when the movement elements of energy, focus and control work together. All movement occurs in and occupies space; it is measured by time; it requires energy to begin and complete itself.

Drama 10

The student will be able to:

1. Display the ability to be still.
2. Demonstrate understanding of basic anatomy.
3. Recognize the necessity for physical warmups.
4. Perform a physical warmup.
5. Demonstrate effective breathing techniques.
6. Recognize when to use specific breathing techniques.
7. Display proper body alignment.
8. Extend flexibility.
9. Display increased ability to balance.
10. Demonstrate focus, concentration and energy in all movement and gesture.
11. Demonstrate the ability to move isolated body parts.

12. Demonstrate knowledge of elements of space.
13. Use levels (high, medium and low).
14. Create physically shapes in space.
15. Use basic locomotor movements (e.g., walking, running, crawling) to explore space.
16. Create and repeat patterns of movement.
17. Demonstrate freezing of movement in space.
18. Appreciate that physical expression can enhance language.
19. Demonstrate qualities of energy.
20. Create appropriate personal physical warmup routines.
21. Demonstrate the ability to extend a movement.
22. Translate words, images and emotions into movement.
23. Demonstrate non-verbally the who, what, where, why and when of a story.
24. Demonstrate understanding of mood, and communicate mood.

Speech

Speech is the exploration of talking and speaking to meet the demands of verbal communication. It examines interpretation, the mechanisms of control of vocal delivery, and acknowledges the importance of listening critically. Speech assists the student to learn more about the voice, and how to use it and improve it. As speech is a "learned" ability, learning begun here will result in improved voice production and thus enhance communication skills.

Drama 10

The student will be able to:

1. Demonstrate vocal relaxation and warmup techniques.
2. Apply effective breathing techniques.
3. Recognize the effect of good posture on voice.
4. Demonstrate knowledge of the parts of the body that are associated with voice production: vocal tracts, lungs, diaphragm, bronchi, trachea, larynx, uvula, pharynx, vocal folds.
5. Recognize how the jaw, lips, tongue, teeth and velum play an important role in articulation.
6. Perform exercises to relax and improve the movement of the articulators.
7. Demonstrate knowledge of the terms intonation, pitch, projection, rate, volume, rhythm, resonance, pausing and phrasing in speech activities.
8. Recognize the resonators' contribution to vocal quality.
9. Use and practise levels of pitch.
10. Demonstrate safe and appropriate projection.
11. Demonstrate how phrasing and pausing, intonation, rate and rhythm affect meaning.
12. Create specific vocal sound effects.
13. Speak spontaneously within a given context.
14. Demonstrate effective narrative techniques.

Drama 20

The student will be able to:

15. Demonstrate expressive reading of literature.
16. Communicate mood and emotion through voice.
17. Identify script indicators of a character's vocal quality.
18. Demonstrate that spoken interpretation is affected by characterization.
19. Examine the effect of subtext upon spoken interpretation.
20. Apply movement and gesture to clarify and enhance spoken interpretation.
21. Apply previously learned speech skills to characterization and presentation.

Drama 30

The student will be able to:

22. Examine the affects of emotion, posture and age on vocal characterization.
23. Use vocal variety in character development.
24. Select appropriate visual elements such as props and costumes to enhance spoken interpretation.

Improvisation

Improvisation is the "acting out" of an unscripted response to an idea or situation. Spontaneous improvisation involves unplanned action and/or dialogue. Planned improvisation involves planned, rehearsed or polished action and/or dialogue.

Drama 10

The student will be able to:

1. Use warmup techniques for preparation of body, voice and mind.
2. Demonstrate the ability to be still.
3. Maintain concentration during exercises.
4. Demonstrate heightened sensory awareness.
5. Create experiences through imaging, visualizing and fantasizing.
6. Demonstrate thinking in a divergent mode.
7. Examine and express feelings.
8. Tell a story spontaneously.
9. Use appropriate stage directions.
10. Demonstrate appropriate rehearsal methods.
11. Apply the essential elements of a story: character, setting, conflict, climax and plot in planned and unplanned scenes.
12. Create, relate and polish a story.
13. Communicate meaning without words.
14. Discover how various emotions affect one vocally and physically.
15. Initiate a dramatic situation in response to a given stimulus.
16. Make logical choices spontaneously within the boundaries of situation and character.
17. Demonstrate the ability to accept, advance, offer or block thought and action, quickly and effectively.
18. Extend the illusion of the onstage environment by creating an offstage reality.
19. Demonstrate techniques for creating effective entrances and exits, consistent with character.
20. Critique the work of self and others through observation and expression of specific detail.
21. Demonstrate techniques for communicating the "illusion of the first time" within a planned situation.
22. Distinguish between performer and character.
23. Use varied stimuli for character development.
24. Select and use vocal techniques appropriate to a character.
25. Select and use language appropriate to a character and situation.
26. Use body language to add physical dimension and depth to a character.
27. Demonstrate economy in movement and speech by making appropriate selections.
28. Demonstrate how attitude, and change in attitude, affects a character.
29. Demonstrate understanding of and apply the concept of status.
30. Demonstrate understanding of and apply the concepts of a character's objectives and motivation.
31. Demonstrate the ability to focus on, and achieve, the objective of a scene.
32. Sustain a character throughout a scene or exercise.

Drama 20

The student will be able to:

33. Sustain a single character in a variety of situations.
34. Demonstrate the techniques of sharing, giving and taking focus.
35. Demonstrate understanding of how the use of levels and planes can focus the stage picture.
36. Integrate improvisational skills learned, in planned and spontaneous improvisations.

Drama 30

The student will be able to:

37. Demonstrate various ways of expressing emotions that are consistent with a character.
38. Demonstrate various ways of creating and communicating mood.

Acting

Acting is the development and presentation of action and reaction of a character from a playscript. Acting involves the technical exploration of the "life" of a character who has been created by a playwright. Through this exploration, actors broaden their empathetic understanding of how other people think and react.

Drama 20

The student will be able to:

1. Analyze a script for explicit character clues.
2. Create, select and sustain physical details of the character from scripted material.
3. Demonstrate understanding of and identify motivation and objectives (overall, main and immediate).
4. Demonstrate understanding that a character's behaviour is motivated by past, present and anticipated future experiences.
5. Demonstrate a character's main objective within a scene.
6. Demonstrate a character's immediate or moment-to-moment objectives within a scene.
7. Demonstrate the ability to play a character from the character's point of view.
8. Demonstrate the ability to memorize required text.
9. Demonstrate the ability to pick up cues effectively.
10. Critique the work of self and others through observation of specific details.
11. Demonstrate understanding of antecedent action, acting beat, operative word, transitions, interior monologue.
12. Analyze script for clues to create antecedent action.
13. Create antecedent action for character.
14. Identify and use operative words in a script.
15. Analyze script for a character's transitions.
16. Play transitions.
17. Create and use an interior monologue.

Drama 30

The student will be able to:

18. Use various vocal skills to enhance characterization.
19. Create a character's life that extends beyond, but is consistent with, the script.
20. Physicalize character through selected and economical movement and gesture.
21. Create appropriate stage business.
22. Display appropriate character relationships with all other characters in a scene.

Theatre Studies

Theatre Studies is the exploration of selected elements of drama and theatre that foster an appreciation of theatre as a traditional art form. It reflects the history of man in society and nurtures a tolerant world view. Within this discipline, the student will explore the following components: the script, the performance and the theatre.

Drama 10

Through selected study of: a) Greek, b) Medieval or Elizabethan; and c) Canadian drama, *the student will be able to:*

1. Recognize theatre has evolved as a traditional art form.
2. Recognize innovations in the theatre.

Drama 20

The student will be able to:

3. Recognize the elements of critique.

Drama 30

Through selected study of Early or Middle or Late drama, *the student will be able to:*

4. Recognize dramatic structure of a play.
5. Recognize elements of tragedy and comedy.
6. Recognize realism and selected other significant theatre styles.

Technical Theatre/Design

Technical Theatre/Design is the appropriate selection, construction and manipulation of those staging variables that visually and orally support the performer and the needs of the production. Possible components of study include: costume, lighting, makeup, management (business/house/stage), properties, set and sound. In a 3-credit course, students study one component, in a 5-credit course they study two components. It is expected that students will experience different components at each grade level.

Drama 10–20–30

Costume

The student will be able to:

1. Demonstrate understanding of the purpose of costume.
2. Recognize the importance of illusion in costume design.
3. Recognize the importance of artistic unity in costume design.
4. Demonstrate knowledge of appropriate safety procedures.
5. Demonstrate understanding of symbolism and psychological implications of colour, texture, line and shape.
6. Demonstrate understanding of the value of the sketch as a tool in creating and communicating ideas in costume design.
7. Demonstrate understanding of techniques of costume organization, care, maintenance, cleaning and storage.
8. Prepare rough costume plot based on a script.

Lighting

The student will be able to:

1. Demonstrate understanding of the purpose of stage lighting.
2. Recognize the importance of illusion in lighting design.
3. Demonstrate understanding of the importance of artistic unity in lighting design.
4. Demonstrate knowledge of appropriate safety procedures.
5. Demonstrate understanding of functions of standard lighting instruments: flood, fresnel, ellipsoidal, follow spotlight, border lights.
6. Demonstrate understanding of functions of gels, barn doors, gobos, c-clamps, shutters.
7. Demonstrate understanding of basic functions of lighting control systems.
8. Demonstrate understanding of symbolism and psychological implications of colour, angle, intensity and timing in creating mood.
9. Demonstrate understanding that gels affect the way colour is perceived in scenery, costume and makeup.
10. Demonstrate safe and proper care in handling and maintaining available lighting instruments.

Makeup

The student will be able to:

1. Demonstrate understanding of the purpose of makeup.
2. Recognize the importance of illusion in makeup design.
3. Demonstrate understanding of the importance of artistic unity in makeup design.
4. Show awareness of need for safety and cleanliness when working with makeup.
5. Examine physical structure of the face.
6. Compile a makeup morgue.
7. Identify basic makeup supplies: bases, highlights, shadows, liners, powders, cleansers, brushes, sponges, crepe hair, adhesives.
8. Differentiate between abstract, straight and character makeups.
9. Demonstrate understanding of symbolism and psychological implications of colour, texture, line and shape.
10. Prepare a makeup chart for a specific character.

Management
(Business/House/Stage)

Business

The student will be able to:

1. Demonstrate understanding of the duties of business management staff.
2. Recognize the importance of and procedures for script ordering and royalty payment.
3. Demonstrate understanding of the importance of record keeping and box office procedures.
4. Recognize the importance of effective publicity techniques/procedures.
5. Demonstrate understanding of appropriate audience development techniques.

House

The student will be able to:

1. Demonstrate understanding of the duties of house manager and house management staff.
2. Demonstrate knowledge of appropriate safety procedures.

Stage

The student will be able to:

1. Demonstrate understanding of the purpose and duties of the stage manager.
2. Recognize and use basic technical theatre/design terminology.
3. Demonstrate understanding of the duties of technical crews: costumes, lighting, makeup, stage, properties, set, sound.
4. Demonstrate knowledge of appropriate safety procedures.
5. Demonstrate understanding of the need for continuous communication between the stage manager and technical crews during performance.

Properties

The student will be able to:

1. Demonstrate understanding of the purpose of stage properties.
2. Recognize the importance of illusion in properties design.
3. Recognize the importance of artistic unity in properties design.
4. Demonstrate knowledge of appropriate safety procedures.
5. Recognize different types of properties: set properties, hand properties, rehearsal properties.
6. Demonstrate understanding of symbolism and psychological implications of colour, texture and shape.
7. Develop a properties list for a specific script.
8. Recognize the need for developing and maintaining properties inventories.
9. Identify external sources for property loan/rental.

Set

The student will be able to:

1. Demonstrate understanding of the purpose of stage scenery.
2. Recognize the importance of illusion in set design.
3. Recognize the importance of artistic unity in set design.
4. Recognize and use theatre terminology related to the proscenium stage.
5. Demonstrate knowledge of appropriate safety procedures.
6. Recognize different types of stages: proscenium, thrust, arena, flexible.
7. Demonstrate understanding of symbolism and psychological implications of colour, texture, line, mass and form.
8. Recognize different types of scenery: bare stage, curtain set, drop and wing set, box set, unit set, suggestive or selective set, flats, projections, scrims, cyclorama.
9. Demonstrate understanding of and use scale.
10. Demonstrate understanding of and use ground plans.
11. Demonstrate understanding of proper placement of stage scenery: balancing, angling, masking, sight lines, backdrops, scrims.

Sound

The student will be able to:

1. Demonstrate understanding of the purpose of stage sound.
2. Recognize the importance of illusion in sound design.
3. Recognize the importance of artistic unity in sound design.
4. Demonstrate knowledge of appropriate safety procedures.
5. Demonstrate understanding of the basic advantages and limitations of sound equipment; e.g., reel-to-reel tape recorders, cassette tape recorders, turntables, compact disc players, amplifiers, mixers, microphones and speakers.
6. Demonstrate understanding that the acoustics of a space affect sound.
7. Create live sound effects.
8. Show awareness of available recorded material; e.g., sound effects records, recorded music.

Playwriting

Playwriting is the writing of a play involving the components of structure, scenario, scene, workshopping and the play. This discipline concentrates equally on the technical and conceptual elements of playwriting.

Drama 20

The student will be able to:

1. Demonstrate understanding of the basic structure of a play.
2. Define and identify plot, character, thought and diction.
3. Demonstrate understanding of script format.
4. Generate and collect ideas that have dramatic possibilities.
5. Write a scenario.
6. Identify character types and their functions and attributes.
7. Demonstrate understanding of and write exposition.
8. Use effective diction.
9. Define character objectives.
10. Define conflict.
11. Construct a conflict between two characters (protagonist and antagonist).
12. Construct a scene with two contrasting characters.
13. Give and accept constructive criticism.

Directing

Directing is the preparation for the staging of a unified dramatic presentation, script or otherwise, such as tableau or mime, through making aesthetic and practical choices, and ensuring that those choices are realized. Directing requires the ability to view a developing presentation from the potential audience members' point of view.

Drama 30

The student will be able to:

1. Demonstrate understanding of the function of the director.
2. Demonstrate understanding of the terms directorial concept and artistic unity.
3. Recognize that a directorial concept should lead to artistic unity.
4. Demonstrate understanding of the relationship between the relevant research of a chosen play and the directorial concept.
5. Demonstrate understanding of the purpose of a director's book.
6. Demonstrate understanding of the terms composition, picturization and stage movement.
7. Demonstrate understanding of the compositional methods of emphasis: body position, stage area, plane, level, contrast, space, repetition.
8. Demonstrate understanding of the necessity for variety to enhance emphasis.
9. Use types of emphasis within an exercise/project: direct, duo, secondary, diversified.
10. Apply compositional elements of stability, sequence and balance to reinforce emphasis within exercise/project.

REQUIRED/ELECTIVE COMPONENTS

The **required** component encompasses the concepts, skills and attitudes that all students will be able to acquire.

The **elective** component provides opportunities to adapt and enhance the required portion of the program to meet the diverse needs and capabilities of individual students. It encourages the adaptation of content, teaching strategies, instructional time, evaluation activities and learning resources to meet specific individual student and/or group needs. The elective component provides for enrichment and additional assistance to individual students as necessary. Elective time may be used to develop further the required learner expectations through other forms and components, or add other learner expectations where appropriate.

The time allotment for the elective component shall be 30% of the instructional time.

Appropriate selection of forms, components and activities should be made, keeping individual needs and interests of students in mind. One might consider expanding the elective component through the suggested non-required learner expectations and/or the study of additional forms and components. Possible activities might include: self-initiated projects, self-directed studies, research, peer teaching, exploration of themes, establishment of specialist crews, integrations with other school programs, guest artists/experts, student mentors, attending performances, critiquing outside performances, films/videos, extra-curricular workshops, festivals, skill extensions, career awareness, touring, assisting the community, field trips.

D. BASIC LEARNING RESOURCES

Resource Correlation

Title	Drama Course		
	10	20	30
Interpretation: Working with Scripts	✓	✓	✓
Living Theater: An Introduction to Theater History	✓	✓	✓
The Theater Experience	✓	✓	✓

Drama 10-20-30

Lundy, Charles J. and David W. Booth. *Interpretation: Working with Scripts.* Don Mills, ON: Academic Press Canada, 1983.

ISBN 0774712104

Wilson, Edwin and Alvin Goldfarb. *Living Theater: An Introduction to Theater History.* Montreal, PQ: McGraw-Hill Book Company, 1983.

ISBN 0070707308

Wilson, Edwin. *The Theater Experience.* Fourth edition. Montreal, PQ: McGraw-Hill Book Company, 1988.

ISBN 0070706816

MUSIC

Choral Music 10–20–30 and Instrumental Music 11–21–31 are under revision and are expected to be completed and approved by June 1, 1991. Learning resources for these courses will also be approved at the same time.

The approved programs of study will be sent to schools in early June for insertion in this section.

Music 12 (general music) will be reviewed during 1991–92.

HOME ECONOMICS

CONTENTS

Home Economics [general]
Clothing and Textiles 10–20–30
Food Studies 10–20–30
Personal Living Skills 10–20–30

HOME ECONOMICS

GENERAL INTRODUCTION

RATIONALE

Home economics is an interdisciplinary study of the laws, conditions, principles and ideals concerned with people's immediate physical environment and their nature as social beings. It particularly focuses on the relationship between the two for the purpose of improving the quality of people's daily lives.

Home economics education contributes to the development of individuals and the family as functioning units of society by increasing knowledge and skills that can improve personal and family living. It provides experiences that will develop attitudes, skills, understandings and techniques essential for the maintenance and improvement of family living, and which will be of value in work situations. The courses stress knowledge and skills that will create awareness that the decisions one makes affect the quality of one's life.

OBJECTIVES

The home economics program in Alberta is defined by the following objectives.

1. To encourage individuals to maintain their physical health, and to reinforce a positive attitude toward physical well-being.
2. To develop a self-sufficiency in food, clothing and shelter decisions.
3. To contribute to the mental health of individuals by developing skills in mutual understanding and adjustment within the family and the environment.
4. To prepare the individual for the sharing and adjustment necessary in personal relationships.
5. To develop competencies in the care and nurturing of young children.
6. To help individuals to understand and work with active and dependent older people.
7. To develop skills and improve decision making in the use of leisure time.
8. To assist individuals to be discerning consumers with regard for conservation of resources.
9. To introduce students to careers related to home economics.
10. To equip individuals with personal skills needed in the employment setting.

PROGRAM DESCRIPTION

General

The high school home economics program is ordered in three courses at three levels:

Clothing and Textiles 10–20–30
Food Studies 10–20–30
Personal Living Skills 10–20–30

Clothing and textiles and food studies are sequential courses; personal living skills is non-sequential.

Home economics courses at the 10 and 20 levels may be offered for 4 or 5 high school credits. Home economics courses at the 30 level must be offered for 5 credits only.

Each home economics course has been structured into a modular format. A module is a specific amount of subject matter and related activity carried out within 25 hours of classroom instruction time. Each home economics course contains some modules that are considered core, or required, and others that may be chosen as electives. Elective modules may be selected from modules not used in previous grades.

The modular structure is a mechanism for teacher planning. Core modules must be selected in any course and a specific sequencing is recommended in some cases. Selection of elective modules, however, should be determined by the nature of the facility, student needs and interests and available resources.

SPECIAL MODULAR STRUCTURES

Locally Developed Modules

Locally developed modules are those developed by the teacher to meet a specific interest or need.

The structure of these modules should be the same as for other modules, with generalizations, objectives, suggested learning activities, resources and a content checklist.

Justification for offering a locally developed module must be based on the fact that it is different from any other module offered in the course and meets a specific interest or need. Such a module must be reviewed by an Alberta Education home economics consultant prior to introduction.

Work Study Modules

Work study is employment undertaken by a student as an integral part of an approved school course that is under the cooperative supervision of a teacher coordinator and the employers. See *Guide to Education: Senior High School Handbook* for regulations pertaining to the work experience/study programs.

Research Modules

A research module is available at the 30 level only. It is a student centred module designed to give the opportunity for in-depth study of some aspect of the course. The topic may be the same as, or different from, existing modules.

CLOTHING AND TEXTILES 10-20-30

RATIONALE

The clothing and textiles program includes a study of the significance of clothing and textile items to individuals in society, the nature of clothing and textile items and the acquisition and use of clothing and textiles in personal and family living. The practical experience of constructing items for home and personal use is a vehicle for teaching about clothing and textiles in addition to providing a medium for artistic expression and experience. Students will also be exposed to cultural and historical interrelationships, consumer responsibility, conservation of energy, design principles and job opportunities.

OBJECTIVES

Students will:

1. acquire basic information about clothing, textiles and design
2. develop an understanding of personal, family, cultural, environmental and economic factors related to clothing behaviour and choices
3. develop skill in the management of human and non-human resources as applied to the provision of clothing and textile items
4. develop skills in selecting, constructing and evaluating clothing and textile items
5. acquire knowledge and skills for informed decision making about clothing and textile items, and an appreciation of the impact these decisions have on society as a whole.

PROGRAM DESCRIPTION

Clothing and Textiles 10

Clothing and Textiles 10 is the first course in the series and consists of four or five modules; the first three modules below are core, the remainder elective.

Project Construction (Core)

- selection and safe use of equipment, basic construction techniques, use of a commercial pattern, selection of appropriate fabric and notions
- application of good management principles considering time, energy and other resources
- evaluating projects, using established standards

Clothing and Individual Expression (Core)

- physical, social and psychological aspects of clothing
- elements in principles of design applied to clothing selection
- wardrobe planning, clothing and fabric buymanship
- project construction

Textiles and Care (Core)

- fibre and yarn characteristics, fabric construction and fabric finishes
- dyeing, printing and applied design
- labelling and care of textile products, consumer rights and responsibilities

Clothing Construction (Elective—one or two modules)

- pattern selection and alteration, suitability of fabrics and notions
- skill development in garment construction, basic construction techniques
- work planning, organization, standards for evaluation

Outdoor Clothing (Elective—one or two modules)

- physiological adaptations to the environment; cultural devices used to adapt to the environment
- specific techniques for constructing outdoor clothing and equipment

Fabric Arts (Elective)

- history and application of several fabric arts techniques
- elements and principles of design
- preparation and evaluation of fabric arts project

Clothing and Textiles 20

The Clothing and Textiles 20 course consists of four or five modules. The first three listed below are core, the remainder are elective.

Advanced Textiles (Core)

- history of textile development; fibre characteristics; human-made fibres, weaves, knits
- new fabric and finish technology; textile laws; trademarks

Pattern Alterations: Fit (Core)

- pattern alterations; fitting procedures; fitting during project construction
- evaluation of fit; construction of the fitted garment

Clothing Construction (Core)

- advanced construction techniques, construction of garments or other fabric items
- management of a sewing project, considering resources available; evaluation of projects according to standards of construction and fit

Fashion Industry/Careers (Elective)

- production and distribution of textiles; consumption patterns of individuals in families
- career opportunities in the fashion industry; examination of Canadian fashion industries
- government regulations; merchandising techniques; consumer skills

Special Fabrics (Elective)

- special fabric techniques; project construction
- good management principles; evaluation of a project

Household Textiles (Elective)

- selection and care of household textiles including carpets, window treatments, linens and upholstery
- construction of a project; evaluation of the project considering cost, skill development, design functionality and energy conservation

Historical/Cultural Roles of Clothing (Elective)

- social, political, economic and cultural influences on clothing
- fashion terms; period fashions
- cultural and social aspects of clothing

Sports Clothing (Elective)

- physiological reactions to environmental conditions
- functionality of clothing and clothing design
- construction and evaluation of a project

Clothing and Textiles 30

The Clothing and Textiles 30 course consists of five modules. The first one listed below is core, and the remainder are elective.

Advanced Construction I (Core)

- advanced construction techniques for tailored garments and other advanced fabric items
- fitting, alterations, shaping
- good management in the construction of an advanced project; evaluation of the project

Advanced Construction II (Elective)

- further development of construction techniques and management principles in the preparation and construction of advanced garments and other items

Special Fabrics II (Elective)

- problem solving; experimentation with special fabrics
- construction of a project; evaluation of techniques and standards achieved; comparison with commercially produced items

Designers (Elective)

- concepts of design; elements, principles and individuality
- Canadian and international designers; Canadian fashion industry, career opportunities
- design and construction of a fabric item; evaluation of projects

Clothing for Special Needs (Elective)

- adaptations of clothing design; construction techniques and fabrics for special physical or environmental circumstances
- construction and evaluation of a project suited for a special physical or environmental need

Pattern Making (Elective)

- basic principles of shaping fabrics using flat pattern, draping or combination techniques
- concepts and principles of design, construction and management applied to a student design project
- design and construction of a project

Clothing and Culture (Elective)

- research into the development and function of clothing in selected cultural and historical groups
- construction and evaluation of an ethnic design
- new technologies in fibres and processes, political and social influences

BASIC LEARNING RESOURCES

Clothing and Textiles 10

Graef, Judy Lynn and Joan Buescher Strom. *Concepts in Clothing.* First Canadian edition. Scarborough, ON: McGraw-Hill Ryerson Ltd., 1979.

ISBN 0070829616

Clothing and Textiles 20

Colton, V. *Complete Guide to Sewing.* Second edition. Montreal, PQ: Reader's Digest Association (Canada) Ltd., 1979.

ISBN 0888500831

Clothing and Textiles 30

Colton, V. *Complete Guide to Sewing.* Second edition. Montreal, PQ: Reader's Digest Association (Canada) Ltd., 1979.

ISBN 0888500831

Palmer, Patti and Pletsch. *Easy, Easier, Easiest Tailoring.* Revised edition. Portland, OR: Palmer/Pletsh Inc., 1983.

ISBN 0935278095

The courses in this section will be revised over the next few years. Information regarding basic learning resources may not be complete or current. Consult your Learning Resources Distributing Centre's *Buyers Guide* for current information.

If you require additional information, please contact Sharon Prather, Alberta Education, Curriculum Branch, Edwards Building, 10053 - 111 Street, Edmonton, Alberta. Telephone 427-2984. Fax 422-3745. Mailing address: Devonian Building, West Tower, 11160 Jasper Avenue, Edmonton, Alberta, T5K 0L2.

FOOD STUDIES 10-20-30

RATIONALE

Food studies at the high school level comprises an in-depth study of all aspects of food, and the relationship of food to health, values and lifestyles.

Food studies will enable students to examine the significance of food as related to physiological, sociological and psychological satisfactions in their daily lives. Chemical and physical properties and factors affecting changes in these properties are studied as well as the production and consumption of food. Practical experiences encourage the development of consumer, management and decision-making skills.

OBJECTIVES

Students will:

1. acquire basic nutrition information and apply it to meal planning, food choices and food preparation
2. develop an understanding of personal, family, cultural, environmental and economic factors related to food behaviour and choices
3. develop skill in the management of human and non-human resources as applied to the selection and preparation of food
4. develop skills and techniques in planning, preparing and presenting food
5. acquire knowledge and skills for informed decision making in the marketplace and in the home, and an appreciation of the impact these decisions have on society as a whole
6. develop skills in the safe and sanitary handling of food and equipment.

PROGRAM DESCRIPTION

Food Studies 10

The Food Studies 10 course consists of four or five modules (corresponding to 4 or 5 credits). The first four modules below are core, the remainder are elective.

Introduction to Food Studies (Core)

- factors affecting food choices and eating habits; nutrition
- safety and sanitation; equipment and procedures

Nature of Food — A — fruits, vegetables, breads and cereals (Core)

- conservation of nutrients
- chemical and physical properties; cookery principles
- production and consumption patterns
- significance of these foods

Nature of Food — B — milk products and eggs (Core)

- selection, storage and cookery principles
- conservation of nutrients
- chemical and physical properties
- significance of milk products and eggs

Nature of Food — C — meats and alternatives (Core)

- selection, storage and cookery principles
- conservation of nutrients
- chemical and physical properties
- significance of meats and alternatives

Food Planning for Today's Lifestyle (Elective)

- principles of food planning
- food patterns of various lifestyles
- management and decision making related to provision of food

Food Planning: Special Situations (Elective)

- health problems related to food intake
- application and modification of principles of food planning for special situations

Food for Independent Living (Elective)

- adaptations of principles of food planning for independent lifestyles
- resource and equipment management

Food Studies 20

The Food Studies 20 course consists of four or five modules (corresponding to 4 or 5 credits). The first three modules below are core, the remainder are elective.

Food Needs and Patterns (Core)

- evaluation of individual food patterns
- assessment of current nutrition issues and trends, and individual nutritional needs
- biological process of nourishing the body, including digestion, absorption and metabolism

Advanced Foods — A — fruits, vegetables, breads and cereals (Core)

- advanced techniques in selection and preparation of this food group
- developments in production and processing of these foods with emphasis on the ecological and economic impact in Alberta
- food service careers

Advanced Foods — B — meat, milk, milk products and eggs (Core)

- advanced techniques in selection and preparation of this food group
- protein complements
- developments in production and processing of these foods, with emphasis on the ecological and economic impact in Alberta
- food service careers

Food Handling and Processing (Elective)

- government regulations relating to food handling and processing
- food preservation
- marketing cycles of food

Canadian Food Heritage (Elective)

- influence of beliefs, values and resources on food studies in Canada
- ethnic and regional food patterns in Canada

International Foods (Elective)

- symbolic meaning of food within given cultures
- relationship of food patterns to the customs of a country
- techniques for preparation of ethnic foods

Food Studies 30

The Food Studies 30 course consists of five modules. The first two modules below are core, the remainder are elective.

Individualizing Food Patterns (Core)

- nutrient needs throughout the life cycle
- adaptation of diets to meet specific diseases, mobility or metabolic limitations
- career opportunities available in the area of special diets

Advanced Preparation Techniques (Core)

- concepts and principles of advanced food preparation and presentation techniques
- quantity cookery
- art of creative cookery

Inadequate Nutrition (Elective)

- world food supply and consumption patterns
- physical and psychological aspects of inadequate nutrition
- world food problems and potential solutions

Entertaining with Food (Elective)

- food as a socializer
- application of the principles of meal planning to hospitality and entertaining
- etiquette and acceptable behaviour in a variety of settings

Carbohydrates/Fats and Oils (Elective)

- forms, sources and uses of carbohydrates and fats
- nutritional requirements and implications of over-consumption
- preparation of food products high in carbohydrates or fats

Kitchen Planning (Elective)

- kitchen planning philosophies
- safe, efficient use of space and equipment
- safety, maintenance and simple repairs

BASIC LEARNING RESOURCES

Food Studies 10

Oli, Suzanne Sickler, Roberta Larson Duffy and Doris Hasler. *Guide to Modern Meals.* Second Canadian edition. Toronto, ON: McGraw-Hill Ryerson Limited, 1982.

ISBN 0075484927

Food Studies 20

Largen, Velda. *Guide to Good Food.* South-Holland, IL: Goodheart-Wilcox, 1988.

ISBN 0870066021

Food Studies 30

Williams, Sue Rodwell. *Mowry's Basic Nutrition and Diet Therapy.* Seventh edition. St. Louis, MO: V. C. Mosby Company, 1984.

ISBN 0801655803

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PERSONAL LIVING SKILLS 10-20-30

RATIONALE

The high school personal living skills program is offered at the 10, 20 and 30 levels. Personal living skills courses can be offered without prerequisites. Courses at the 10 and 20 levels may be offered for 4 or 5 high school credits. At the 30 level, personal living skills must be offered for 5 credits only.

Each home economics course has been structured into a modular format. A module is a specific amount of subject matter and related activity carried out within 25 hours of classroom instruction time. A personal living skills course must contain at least one module from each of the "Personal Skills", "Family Skills" and "Applied Skills" groupings. The remaining one or two modules may be selected from any of the groupings.

Personal living skills courses emphasize the development of decision-making skills.

OBJECTIVES

Students will:

1. acquire basic information about human development, family relationships and environmental interrelationships
2. develop an understanding of personal, family, cultural, environmental and economic factors related to lifestyle choices
3. develop skill in the management of human and non-human resources
4. develop skills and techniques in personal decision making and interpersonal relationships
5. apply management skills to problems of daily living
6. be given an opportunity to understand and work with active and dependent older people
7. develop skills and improve decision making for the use of leisure time
8. assist individuals to be discerning consumers with regard for conservation of resources
9. be introduced to careers related to home economics
10. be equipped with personal skills needed in the employment setting.

PROGRAM DESCRIPTION

Each of the personal living skills courses must contain at least one module from each of the three groups: personal, family and applied skills. The remaining modules needed to make up a course may be selected from any of the groups. The recommended level is indicated in parentheses, following the module title.

Personal Skills Group

Personal Awareness

- self-concept, personal understanding, values, goals and attitudes
- physical and social development; psychological needs

Resource Management (10–20)

- values, goals, standards, needs, wants
- human and non-human resources; conservation; substitution; money management
- personal management skills

Managing a Lifestyle (20–30)

- elements of management; decision making
- personal goals; lifestyle choices; value orientation

Living Skills within Relationships (20–30)

- individual differences; communication skills; personal needs
- different family structures; building and maintaining relationships; stages of life cycle

Family Skills Group

Child Study (10–20)

- stages of child development; child behaviour theories
- physical and psychological needs of young children; costs of child care; community resources

Teen–Parent Relationships (10–20)

- adolescent needs; peer pressure
- developing independent living skills; communication skills
- family rights and responsibilities; family types and roles

Human Sexuality (10–20–30)

- anatomy and physiology; body care
- socio-cultural development; sex roles; stereotyping
- dating; marriage relationships

Parenting (30)

- values and beliefs; legal and economic aspects of child raising
- child abuse; support systems; community resources

Marriage (30)

- personal development; relationships; commitment
- customs; legal and social obligations; expectations
- challenges; crises in marriage; community resources

Applied Skills Group

Living on Your Own (10–20–30)

- housing needs; life cycle; availability of resources
- types of housing; guidelines for evaluating housing; legal rights and responsibilities

Designing Home Environments (20–30)

- elements and principles of design in housing; historical and cultural influences
- psychological and social influences; lifestyles
- planning household interiors; home maintenance; career opportunities

A Study of Housing (30)

- environmental, social and economic constraints in home design and availability of housing
- financing housing; rights and responsibilities; energy efficiency and conservation
- community responsibilities; future home design; careers in home design

Senior Side of Living (20)

- physical, psychological, mental changes with aging; cultural attitudes toward aging
- economic, housing, nutrition needs with aging
- community resources; job opportunities for the aged

Community Services for Children (10–20)

- legal, moral and ethical responsibilities toward children
- community and private facilities for children; careers in child care
- skills and understandings needed for working with children

Historical Family Crafts (10–20–30)

- food, clothing and shelter provision in the past
- practice of historical crafts in current applications

The Family in Crisis (20–30)

- crisis and stress in family life situations
- support services; legal responsibilities; community resources available for a family in crisis
- environmental crisis; coping with disaster management skills.

BASIC LEARNING RESOURCES

Because of the wide variety of topics covered, there are no basic learning resources for Personal Living Skills 10, 20 or 30.

INDUSTRIAL EDUCATION

CONTENTS

INDUSTRIAL EDUCATION [general]

INDUSTRIAL EDUCATION 10–20–30 SERIES GENERAL COURSES

- Drafting 10–20
- Industrial Education 10–20–30
- Agriculture 10–20–30
- Production Science 30

INDUSTRIAL EDUCATION 12–22–32 SERIES CAREER FIELDS

Construction and Fabrication

- Building Construction 12
- Building Construction 22a
- Building Construction 22b
- Building Construction 22c
- Building Construction 32a
- Building Construction 32b
- Building Construction 32c
- Machine Shop 12
- Machine Shop 22a
- Machine Shop 22b
- Machine Shop 22c
- Machine Shop 32a
- Machine Shop 32b
- Machine Shop 32c
- Piping 12
- Piping 22a
- Piping 22b
- Piping 22c
- Piping 32a
- Piping 32b
- Piping 32c
- Sheet Metal 12
- Sheet Metal 22a
- Sheet Metal 22b
- Sheet Metal 22c
- Sheet Metal 32a
- Sheet Metal 32b
- Sheet Metal 32c
- Welding 12
- Welding 22a
- Welding 22b
- Welding 22c
- Welding 32a
- Welding 32b
- Welding 32c

Electricity–Electronics

- Electricity–Electronics 12
- Electricity 22a
- Electricity 22b
- Electricity 22c
- Electricity 32a
- Electricity 32b
- Electricity 32c

Electronics 22a
Electronics 22b
Electronics 22c
Electronics 32a
Electronics 32b
Electronics 32c

Graphic Communications

Drafting 12
Drafting 22a
Drafting 22b
Drafting 22c
Drafting 32a
Drafting 32b
Drafting 32c
Visual Communications 12
Visual Communications 22a
Visual Communications 22b
Visual Communications 22c
Visual Communications 32a
Visual Communications 32b
Visual Communications 32c
Graphic Arts 22a
Graphic Arts 22b
Graphic Arts 22c
Graphic Arts 32a
Graphic Arts 32b
Graphic Arts 32c

Horticulture

Horticulture 12
Horticulture 22a
Horticulture 22b
Horticulture 22c
Horticulture 32a
Horticulture 32b
Horticulture 32c

Mechanics

Mechanics 12
Related Mechanics 22a
Related Mechanics 22b
Related Mechanics 22c
Related Mechanics 32a
Related Mechanics 32b
Related Mechanics 32c
Automotives 22a
Automotives 22b
Automotives 22c
Automotives 32a
Automotives 32b
Automotives 32c
Auto Body 12
Auto Body 22a
Auto Body 22b
Auto Body 22c
Auto Body 32a
Auto Body 32b
Auto Body 32c

Personal Services

Beauty Culture 12
Beauty Culture 22a
Beauty Culture 22b
Beauty Culture 22c
Beauty Culture 32a
Beauty Culture 32b
Beauty Culture 32c
Beauty Culture 32d
Food Preparation 12
Food Preparation 22a
Food Preparation 22b
Food Preparation 22c
Food Preparation 32a
Food Preparation 32b
Food Preparation 32c
Food Preparation 32d
Health Services 12
Health Services 22
Health Services 32a
Health Services 32b

INDUSTRIAL EDUCATION

GENERAL INTRODUCTION

RATIONALE

Industrial education is a program consisting of courses that provide a continuum of experiences, starting with exploratory activities in the junior high school and expanding in the senior high school to the development of skills related to career fields. This development of the student's skills is planned for through courses in industrial and vocational education culminating in on-the-job work experience, or entry into a job or post-high school institution for further education.

The program consists of courses ranging from those designed for an exploration of the technologies and trade areas to units of practical preparation for a career. In the process, the courses develop the student's self-knowledge, talents and skills.

For information on sequencing and course description, refer to the *Industrial Education Manual for Guidance to Teachers, Counsellors and Administrators*, 1983.

INDUSTRIAL EDUCATION PROGRAM

There are two parts to the industrial education program. The first part consists of the Industrial Education 10-20-30 series of courses and is designed for career orientation. These courses were developed primarily for students in laboratories that use the multiple activity approach as found in most small schools, but they can be taught in unit shops as well.

The second part consists of the Industrial Education 12-22-32 series of courses and is intended for career development. The courses are planned for use in schools where facilities are available to teach specific occupational areas.

Students may progress from the Industrial Education 10-20-30 series to the 22-level courses upon meeting specified basic prerequisites or upon recommendation of their principal.

Both sections of the program focus on six career fields. These are:

Construction and Fabrication
Electricity-Electronics
Graphic Communications
Horticulture
Mechanics
Personal Services

The Industrial Education 10-20-30 courses consist of a number of 25-hour modules related to the career fields, while the Industrial Education 12-22-32 courses consist of a number of 25-hour modules of specific occupational content.

It is left to the administrators of the school to offer the courses or combination of courses best suited to the needs and interests of the students and the financial resources of the district.

Courses offered at the 22- and 32-level have to meet special criteria for staff and facilities. The industrial education consultant must authorize these courses in order to qualify the students for vocational grants.

OBJECTIVES

The industrial education program can help achieve the goals of schooling and education. The course objectives are more focused and give direction to the teacher.

The objectives of industrial education are classified in three areas with the following purposes:

Personal Growth

To provide opportunities for the individual growth of the student through the development of acceptable personal and social values necessary in a productive society.

1. To provide a technical environment that motivates and stimulates individuals to discover their interests and develop personal and social responsibilities.

2. To assist in the development of positive attitudes toward safety.

3. To assist in the development of positive attitudes toward conservation and environment.

4. To assist in the development of consumer literacy.

Career Exploration

To provide the student with experiences that will assist him or her in making realistic career choices.

1. To provide the student with an opportunity, within a technical environment, to become acquainted with the general occupational characteristics of a variety of career fields.

2. To relate the student's interests, abilities, likes, dislikes and values to several career fields.

Occupational Skills

To develop basic competencies, integrating cognitive and psychomotor skills related to families of occupations.

1. To provide safe exploratory experiences in the use of tools, energy, equipment and materials appropriate to various technologies prevalent in a productive society.

2. To develop an understanding of the interrelationships of various technologies.

3. To provide a technical environment that permits students to synthesize their accumulated knowledge in the solution of practical problems, and to assist students to develop habits that will be conducive to the establishment of a safe environment.

CONCEPTS

Each of the program areas identifies concepts unique to that area. In addition, the nine concepts common to the total program and incorporated in every module, where appropriate, are:

1. Consumer Awareness
   - quality
   - effective advertising
   - specifications
   - dollar value
   - buying procedures
   - availability
   - parts

2. Environmental Implications
   - time element (past, present, future)
   - rates of consumption
   - conservation
   - alternatives
   - pollution (land, air, water)

3. Graphic Interpretation
   - schematic
   - symbols
   - drawing interpretation
   - visuals
   - technical drawing and interpretation

4. Measurement
   - British Engineering System (imperial)
   - Systém International (SI)
   - accuracy
   - tools and instruments
   - tolerances
   - precision
   - estimation
   - approximation
   - computations (including graphs, charts, interpolation)

5. Career Information
   - benefits
   - unionism
   - local opportunities
   - job mobility (vertical, horizontal, geographic)
   - future
   - retraining and upgrading
   - jobs versus careers

6. Societal Implications
   - time (past, present, future)
   - economic
   - life patterns
   - status
   - values and mores

7. Technological Implications
   - costs, benefits, consequences (CBC)
   - resource use and abuse
   - tool development and use
   - manufacturing
   - servicing
   - obsolescence
   - design process
   - planning

8. Safety
   - unsafe conditions
   - unsafe acts

9. Historical Perspective
   - the historical development of the discipline

INDUSTRIAL EDUCATION
10-20-30 SERIES
GENERAL COURSES

CONTENTS

Drafting 10-20

Industrial Education 10-20-30
    Electricity-Electronics
    Materials
    Power Technology
    Visual Communications

Agriculture 10-20-30

Production Science 30

DRAFTING 10-20

DRAFTING 10 (3, 4 or 5 credits)

INTRODUCTION

This drafting course is designed to provide the student with experiences that allow him or her to sample the various kinds of drawings generally used within the field. These activities should enable the student to make an informed decision about further studies in the drafting field.

OBJECTIVES

The objectives of Drafting 10 are:

1. to provide a practical environment that will enable the student to make a more realistic assessment of his or her interests and aptitudes
2. to allow the student to develop basic knowledge, understanding and appreciation of drafting processes and materials.

CONTENT

1. Pencils, erasers, types of lines, lettering and dimensioning
2. Practical drawings, lettering and dimensioning
3. Orthographic projection
4. Practical drawing: orthographic projection and blueprint reading
5. Making and checking a complete working drawing; hidden lines, angles
6. Practical drawing: orthographic projection; drawing hidden lines
7. Bisecting lines, sketching circles; more about finished surfaces
8. Practical drawing: circles and blueprint reading
9. Tangent lines and arcs, fillets, rounds and runouts
10. Practical drawing: tangents, arcs, fillets and rounds
11. Sectional views
12. Practical drawing: sectional views, blueprint reading, orthographic sketching

The 3-credit course ends at item 12.

13. Aligned sectional views; pictorial drawings
14. Practical drawing: aligned sectional views, oblique and isometric drawing
15. Dimensioning isometric drawings; methods of making holes
16. Practical drawing: isometric drawings, blueprint reading

The 4-credit course ends at item 16.

17. Scale drawing; auxiliary views
18. Practical drawing: scale drawings, auxiliary views
19. Isometric circles and arcs
20. Practical drawing: isometric circles

The 5-credit course ends at item 20.

DRAFTING (3, 4 or 5 credits)

INTRODUCTION

This course is introductory to engineering basics.

OBJECTIVES

The objectives of Drafting 20 are to provide study in:

1. the application of drafting theory and techniques consistent with mechanical drawing standards
2. fabrication processes
3. materials; their properties and use.

CONTENT

1. Shape and Size Description
   - orthographic multiview projections
   - pictorial drawings
2. Fasteners — Mechanical
   - common thread fasteners
   - special fasteners
   - miscellaneous fasteners
3. Fasteners — Non-mechanical
   - adhesion
   - cohesion
4. Forming Processes
   - casting drawings
   - forging
   - cold heading and powder metallurgy in relation to drawings
   - mechanical drawings
   - other forming methods
5. Elementary Piping
   - materials used
   - joining pipe
   - representing piping systems
6. Detail and Assembly Drawings
   - detail drawings
   - assembly drawings
   - checking

BASIC LEARNING RESOURCES

Drafting 10–20

French, Urbanek and Helsel Svenson. *Mechanical Drawing*. SI metric. McGraw-Hill Ryerson.

Helper, Donald E. and Paul I. Wallach. *Architecture: Drafting and Design*. Fourth edition. New York, NY: McGraw-Hill, 1982.

ISBN 007028301X

The courses in this section will be revised over the next few years. Information regarding basic learning resources may not be complete or current. Consult your Learning Resources Distributing Centre's *Buyers Guide* for current information.

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INDUSTRIAL EDUCATION 10-20-30

INDUSTRIAL EDUCATION 10–20–30 MATRIX

(Each module is 25 to 33 hours in length)

CAREER STRANDS

ELECTRICITY-ELECTRONICS

1. Basic Electricity and Electronics I
2. Basic Electronics II
3. Equipment Servicing
4. Logic Circuits
5. Computing Systems
6. Introduction to Computers
7. Computer Programming — Introductory
8. Computer Programming — Industrial Applications
9. Communications — Introductory
10. Communications — Systems
11. Electronic Design
12. Electronic Construction

MATERIALS

1. General Woods
2. Building Construction — Framing
3. Building Construction — Sub-trades
4. Cabinet Construction — Basic
5. Cabinet Construction — Advanced
6. General Metals
7. Sheet Metal
8. Machine Metal
9. Arc Welding
10. Oxyacetylene Welding
11. Foundry
12. Earths
13. Plastics
14. Textiles
15. Foods

POWER TECHNOLOGY

1. Conventional Heat Engines
2. Small Engine Repair
3. Small Engine Tune-up and Troubleshooting
4. Mechanical Systems
5. Non-conventional Power Sources
6. Electrical and Electronic Systems
7. Electromechanical and Electronic Control
8. Appliance Repair and Troubleshooting
9. Automobile Maintenance
10. Fluid Power
11. Automobile Tune-up
12. Automobile Repair
13. Automobile Ownership

VISUAL COMMUNICATIONS

1. Introduction to Offset Lithography
2. Process Photography — Line
3. Process Photography — Half-tone
4. Layout and Design
5. Topographical and Architectural Drafting
6. Relief Printing
7. Screen Process Printing
8. Black and White Photography — Basic
9. Black and White Photography — Advanced
10. Colour Photography
11. Mechanical Drafting
12. Customer Drafting
13. Offset Printing Production

GENERAL MODULES

Three modules of a general nature are also available and may be used by a student or group only once. These are:

1. Research Module
2. Developmental Module
3. Production Science Module

GENERAL MODULES

Introduction

The three modules described may be used once by a student to augment any one of the four major fields of study.

1. Research Module

   The purpose of the Research Module is to allow individual students to engage in an in-depth study of a problem related to any of the career fields.

   The module provides for individualizing the program to allow for special interests of students. The student should prepare a proposal of his or her research and have it approved by the teacher. The proposal should contain:

   - a statement of the problem
   - the procedure to be followed in the research of the problem
   - a list of the materials and lab facilities to be used
   - a time line of activities.

   The time period is 25 hours and qualifies as a regular module.

2. Developmental Module

   The purpose of the Developmental Module is to provide a 25-hour block of time for the teacher to try out new content with the class. The content of the proposal or project should be discussed with the Assistant Director, Practical Arts, Curriculum Branch.

3. Production Science Module

   The purpose of the Production Science Module is to provide for a class project in setting up a company to produce a product or service.

   The teacher may select content from the Production Science 30 program of studies to develop a 25-hour module.

ELECTRICITY-ELECTRONICS

INTRODUCTION

Energy in the form of electricity has become very important. Power is basic to our standard of living. With the concern for the efficient use of energy, the study of electrical technology takes on increased significance.

There are twelve modules of content that provide the student and teacher with considerable choice in building the type of program best suited to the situation. The modules listed may be taught in any order that the teacher finds most appealing.

The major concepts addressed in electricity-electronics technology are:

1. Energy Conversion
2. Energy Control
3. Energy Transfer
4. Energy Use

OBJECTIVES

The objectives of the electricity-electronics modules are:

1. to make the student aware of a number of ways to convert energy forms, and to use various methods of transferring and controlling the converted energy to an intended use

2. to give the student an opportunity to practise troubleshooting techniques, using analytical thinking

3. to give the student an opportunity to learn basic binary concepts and logic circuits, and to study some practical subsystems fundamental to communication, control and computer applications.

CONTENT

Module 1: Basic Electricity and Electronics I

1. Safety
2. Direct Current
   - terms
   - calculations
   - resistance
   - voltage
   - current
   - power
   - conductors and insulators
   - Ohm's law
   - circuits
   - magnetism
   - motors

Module 2: Basic Electronics II

1. Safety
2. Electronic Concepts, Components, Instruments
   - alternating current
   - rectifiers
   - semiconductors
   - transistors
   - capacitance
   - circuits
   - inductance
   - AC generator

Module 3: Equipment Servicing

1. Safety
2. Servicing Electrical and Electronic Equipment
   - test equipment
   - tools
   - components
   - schematics
   - repair

Module 4: Logic Circuits

1. Logic
   - gates
   - numbering systems
   - logic gates

Module 5: Computing Systems

1. Digital Computers
2. Analog Computers
3. Conversions

Module 6: Introduction to Computers

1. Computers
   - uses
   - types
   - terminology
   - systems
   - classes
   - history
   - language
   - flow charting

Module 7: Computer Programming — Introductory

1. Programming
   - procedures
   - language
   - arithmetic operations
   - statements and commands
   - variables
   - input
   - storage
   - branching
   - loops
   - flow charting
   - disc operation

Module 8: Computer Programming — Industrial Applications

1. Industrial Applications
   - storage and retrieval
   - problem solving
   - control
   - simulation

Module 9: Communications — Introductory

1. Amplification
   - circuits
   - limitations
   - variations
   - audio systems
   - performance
   - impedance

Module 10: Communications — Systems

1. Radio Communication
   - principles of transmission
   - principles of reception
   - RF oscillator
   - transmission
   - receiving
   - applications
   - television

Module 11: Electronic Design

1. Electronic System Design
   - planning
   - parameters
   - parts
   - prototype
   - circuits
   - assembly
   - production costs

Module 12: Electronic Construction

1. Safety
2. Construction Techniques

BASIC LEARNING RESOURCES

Grob, Bernard. *Basic Electronics*. Fifth edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1984.

ISBN 0070249288

Horn, Carin E. and James L. Poirot. *Computer Literacy: Problem Solving with Computers*. Austin, TX: Sterling Swift, 1981.

ISBN 0884081338

Miller, Rex and Fred W. Culpepper. *Energy: Electricity/Electronics*. Scarborough, ON: Nelson Canada, 1982.

ISBN 053835009

Tokheim, Roger L. *Digital Electronics*. Third edition. New York, NY: McGraw-Hill, 1990.

ISBN 0070650357

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MATERIALS

INTRODUCTION

The materials modules consist of content representing the major construction and fabrication materials and processes used in Canada. Construction and fabrication continue to be important and necessary activities in our society.

There are fifteen modules of content that provide the student and the teacher with considerable choice in building the type of program best suited to the situation. Teachers should select modules using the resources available and in harmony with the needs of their students.

The modules as listed may be selected in the order that the teacher finds most appropriate. Two modules taught for a total of 65 hours will serve as a prerequisite for the appropriate 22-level courses in building construction, sheet metal, machine metal or welding.

OBJECTIVES

The objectives of the materials modules are:

1. to make the student aware of the variety of career areas represented by the materials area

2. to give the student an opportunity to practise the processes and skills required to construct with materials

3. to give the student an opportunity for analytical thinking and planning, and constructing or fabricating of a project.

CONTENT

Module 1: General Woods

1. Safety
2. Extraction, Processing and Identification
3. Project Development
4. Measurement and Layout
5. Shaping, Forming and Fastening
6. Finishing

Module 2: Building Construction — Framing

1. Safety
2. Planning and Design
3. Construction Guidelines
4. Material Use
5. Measurement and Layout
6. Construction Methods

Module 3: Building Construction — Sub-trades

1. Safety
2. Sub-trades
   - concrete, framing, flooring, roofing
   - heating
   - electrical
   - insulation
   - drywall
   - bricklaying, tile, glass
   - siding, stucco
   - cabinets

Module 4: Cabinet Construction — Basic

1. Safety
2. Materials
3. Project Development
4. Measurement and Layout
5. Finishing

Module 5: Cabinet Construction — Advanced

1. Safety
2. Materials
3. Project Planning
4. Layout
5. Shaping, Forming, Fastening
6. Finishing

Module 6: General Metals

1. Safety
2. Extraction and Processing of Raw Materials
3. Product Planning
4. Metal Shaping Processes

Module 7: Sheet Metal

1. Safety
2. Extraction and Processing of Raw Materials
3. Product Planning and Design
4. Shaping Processes

Module 8: Machine Metal

1. Safety
2. Extraction and Processing of Raw Materials
3. Product Planning
4. Shaping Processes

Module 9: Arc Welding

1. Safety
2. Extraction and Processing of Raw Materials
3. Product Planning and Design
4. Shaping Processes

Module 10: Oxyacetylene Welding

1. Safety
2. Extraction and Processing of Raw Materials
3. Project Planning
4. Shaping Processes

Module 11: Foundry

1. Safety
2. Extraction and Processing of Raw Materials
3. Product Planning
4. Shaping Processes

Module 12: Earths

1. Safety
2. Sources
3. Product Planning
4. Shaping Processes

Module 13: Plastics

1. Safety
2. Sources and Processing
3. Classification and Characteristics
4. Shaping, Molding and Fabricating

Module 14: Textiles

1. Safety
2. Types of Fabric
3. Clothing Selection, Core and Construction

Module 15: Foods

1. Safety
2. Sanitation, Nutrition, Management and Food Preparation

BASIC LEARNING RESOURCES

Cherry, Raymond. *General Plastics: Projects and Procedures.* Fourth edition. Bloomington, IL: McKnight & McKnight Publishing Company, 1967.

Feirer, John L. *Cabinet Making and Millwork.* Fifth edition. Don Mills, ON: Collier Macmillan Canada Inc., 1988.

ISBN 0026759500

Feirer, John L. *General Metals.* Sixth edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1986.

ISBN 0070203989

Krar, S. F. et al. *Machine Shop Operations: Visutext.* Scarborough, ON: McGraw-Hill Ryerson Limited, 1985.

ISBN 007082200X

Krar, S. F. and J. W. Oswald. *Machine Shop Training.* SI metric fourth edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1986.

ISBN 0075489511

Landers, Jack M. *Construction: Materials, Methods, Careers.* Richmond Hill, ON: Irwin Publishing Inc., 1983.

ISBN 0870064487

Miller, H. G. *Hand and Machine Woodwork.* Metric edition. Agincourt, ON: Gage Educational Publishing Company, 1980.

ISBN 0771503229

Pender, James A. *Welding.* SI metric third edition. Scarborough, ON: McGraw-Hill Ryerson, Ltd., 1986.

ISBN 0075489538

Smith, Robert E. *Patternmaking and Founding.* Bloomington, IL: McKnight & McKnight Publishing Company, 1954.

Zinngrabe, C. J. and F. W. Schumacher. *Sheet Metal Hand Processes.* Scarborough, ON: Nelson Canada, 1974.

ISBN 0827302207

Zinngrabe, C. J. and F. W. Schumacher. *Sheet Metal Machine Processes.* Scarborough, ON: Nelson Canada, 1975.

ISBN 0827302223

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POWER TECHNOLOGY

INTRODUCTION

With the concern for the efficient use of energy, the study of power technology takes on increased significance.

There are thirteen modules of content that provide the student and teacher with considerable choice in building the type of program best suited to the situation. The modules listed may be taught in any order that the teacher finds most appropriate.

The major concepts addressed in power technology are:

1. Energy Conversion
2. Energy Transfer
3. Energy Use

OBJECTIVES

The objectives of the power technology modules are:

1. to make the student aware of a number of ways to convert energy forms, and to use various methods of transferring the converted energy to an intended use

2. to give the student an opportunity to practise troubleshooting techniques, using analytical thinking.

CONTENT

Generalizations, concepts and sub-concepts are outlined on the following pages. Teachers are expected to develop additional objectives and activities to supplement the identified content and maintain relevancy.

Module 1: Conventional Heat Engines

1. Safety
2. Identification and Use of Tools and Equipment
   - hand tools
   - power tools
   - measuring instruments
   - care and maintenance
   - special tools
3. Combustion Engines
   - energy forms
   - types of combustion engines
   - basic maintenance
4. Alternative Energy Sources
   - sources
   - applications

Module 2: Small Engine Repair

1. Safety Practices
2. Repair
   - diagnostic tests
   - engine overhaul
   - costing

Module 3: Small Engine Tune-up and Troubleshooting

1. Safety
2. Tune-up and Troubleshooting
   - systems
   - diagnostic tests
   - servicing and tune-up
   - manuals and specifications
   - ordering parts and costing

Module 4: Mechanical Systems

1. Safety
2. Power Transmission
   - definitions
   - transmission devices
   - lubrication
   - seals
   - operation

Module 5: Non-conventional Power Sources

1. Safety
2. Electricity and Electric Motors
   - magnetism
   - electric components
   - measurement
   - motors

Module 6: Electrical and Electronic Systems

1. Safety
2. Electrical Devices in Automobiles
   - magnetism and electricity
   - alternators
   - regulators
   - motors
   - measurement

Module 7: Electromechanical and Electronic Control

1. Safety
2. Electronic Circuitry
   - schematics
   - components
   - ignition system
   - appliances

Module 8: Appliance Repair and Troubleshooting

1. Safety
2. Electrical Appliance
   - schematics
   - appliance operation
   - diagnosis
   - testing
   - repair

Module 9: Automobile Maintenance

1. Safety
2. Regular Maintenance
   - exterior/interior
   - lubrication
3. Systems
   - cooling
   - braking
   - steering
4. Tires
5. Lights
6. Other — Windshield, Shocks, Exhaust

Module 10: Fluid Power

1. Safety
2. Hydraulic Fluid Devices
   - Pascal's law
   - hydraulic jack
   - hydraulic brakes
   - power steering
   - automatic transmission
3. Pneumatic Power Devices
   - laws
   - devices — compressors, turbo chargers, air tools
   - air conditioning
   - pollution control

Module 11: Automobile Tune-up

1. Safety
2. Tune-up
   - diagnosis
   - inspections and tests
   - pollution factors
   - ignition system
   - fuel system

Module 12: Automobile Repair

1. Safety
2. Major Repairs
   - brakes
   - engines
   - transmission
   - drive line
   - electrical system
   - body work

Module 13: Automobile Ownership

1. Safety Inspection
2. Owner Responsibilities
   - legal
   - moral
   - financial
   - insurance
3. Purchasing an Automobile
   - preparation
   - finances
   - survey
   - inspections
   - purchase
4. Owner Maintenance and Operation
   - maintenance and service
   - attachments — trailers
   - off-road vehicles

BASIC LEARNING RESOURCES

Crouse, William H. and Donald L. Anglin. *Automotive Mechanics*. Second Canadian edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1987.

ISBN 007548949X

Thiessen, Frank J. and Davis N. Dales. *Automotive Principles and Service*. Second edition. Scarborough, ON: Prentice-Hall Canada Inc., 1984.

ISBN 0835903311

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VISUAL COMMUNICATIONS

INTRODUCTION

Visual communications include a broad spectrum of activities ranging from sketching to printing an illustrated book. With communications playing such a dominant part in our lives, it serves as a useful subject for study.

The thirteen modules that comprise the program provide a broad scope of content that allows the student and teacher considerable choice in building the type of course best suited to the situation. The modules listed may be taught in any order the teacher finds most appealing.

The major concepts addressed in visual communications are:

1. Image Creation
2. Image Generation
3. Image Conversion
4. Reproduction
5. Finishing

OBJECTIVES

The objectives of the visual communications modules are:

1. to provide an opportunity for the student to learn about the materials and processes used in the graphics industry

2. to give the student practice in the approved methods and procedures required for drafting, printing, photography and duplicating processes

3. to acquaint the student with opportunities in the field of graphic communications.

CONTENT

The modules listed may be selected in the order that the teacher finds most appropriate. Two modules taught for a total of 65 hours will serve as a prerequisite for the appropriate 22-level courses in drafting, graphic arts or visual communications.

Module 1: Introduction to Offset Lithography

1. Safety
2. Offset Lithography
   - image creation
   - image generation
   - image conversion
   - reproduction
   - finishing
3. Careers

Module 2: Process Photography — Line

1. Safety
2. Line Photography and Offset Preparation
   - design principles
   - layouts
   - camera work
   - reproduction
   - finishing

Module 3: Process Photography — Half-tone

1. Safety
2. Half-tone Photography and Offset Reproduction
   - design
   - measurement
3. Operation of Process Camera
   - screening
   - preparation of flats
   - platemaking
4. Offset Reproduction
5. Finishing

Module 4: Layout and Design

1. Safety
2. Creative Design, Layout and Reproduction
   - commercial art techniques
   - lettering
   - tools
   - materials
   - masters
   - offset press

Module 5: Topographical and Architectural Drafting

1. Topographical Drafting
    - surveying
    - photogrammetry
    - cartography
2. Architectural Drafting
    - drafting practices
    - floor plans — elevations
    - presentation drawing
    - perspective drawing

Module 6: Relief Printing

1. Safety
2. Relief Printing
    - measurement
    - layout techniques
    - flexography
    - photo-engraving
    - reproduction — platen press, sign press, rubber stamp
    - finishing

Module 7: Screen Process Printing

1. Safety
2. Screen Process Printing
    - design development
    - layout for hand cut of photographic stencil
    - paper stencil
    - preparing photographic stencil
    - screen frame
    - printing
    - finishing

Module 8: Black and White Photography — Basic

1. Safety
2. Photography (Black and White)
    - elements of photographic composition
    - types of photography
    - camera theory and operation
    - films
    - developing
    - paper and finishing

Module 9: Black and White Photography — Advanced

1. Safety
2. Photography (Black and White)
    - photographic composition
    - lighting
    - camera handling
    - lenses
    - flash photography
    - film processing
    - enlarger
    - finishing

Module 10: Colour Photography

1. Safety
2. Photography (Colour)
    - composition
    - lighting
    - lenses
    - slide copying
    - film developing
    - colour enlarger
    - print mounting

Module 11: Mechanical Drafting

1. Drafting
    - freehand drawing
    - lines, letters, symbols
    - tools
    - orthographic projection
    - isometric projection
    - perspective
    - dimensioning — lettering

Module 12: Customer Service

1. Safety
2. Customer Service
    - job analysis
    - personnel organization
    - production
    - monitoring

Module 13: Offset Printing Production

1. The Journalism Process
    - preparation of reports and advertising
    - production techniques
    - appropriate layouts for specific jobs
    - offset camera applications
    - offset reproduction
    - binding

BASIC LEARNING RESOURCES

Bailey, A. *Color Photography*. Random House, 1984.

ISBN 0394724674

Black and White Darkroom Data Guide: Kodak. Eastman Kodak.

Cogoli, John E. *Photo-Offset Fundamentals*. Fifth edition. Don Mills, ON: Collier Macmillan, 1986.

ISBN 0026755904

Davis, Phil. *Photography*. Fourth edition. Dubuque, IO: Wm. C. Brown Company Pub., 1972.

ISBN 0697032191

Drafting Basics. Darbyshire, 1982.

Jensen, Cecil. *Architectural Drawing and Design for Residential Construction*. SI metric edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1982.

ISBN 0075480603

Stirling, N. *Fundamentals of Technical Drawing*. Agincourt, ON: Gage Educational Publishing Company, 1984.

ISBN 077150327X

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AGRICULTURE
10-20-30

No provincial program of studies is available for Agriculture 10, 20 or 30. These courses may be developed as extensions of the new complementary Junior High Agriculture: Land and Life program.

Agriculture 10-20-30 is NOT acceptable for meeting the science requirement of the General High School Diploma, Advanced High School Diploma or the Certificate of Achievement.

There are no basic learning resources for Agriculture 10, 20 or 30 at the present time.

PRODUCTION SCIENCE 30

INTRODUCTION

Production Science 30 is a new 5-credit course that can be taught at the Grade 11 or Grade 12 level. Some background on the part of students in the production or service areas around which the course is built would be desirable.

Production Science 30 is a course that has been developed from activities carried on in the industrial education program. The course, however, is not dependent on the facilities usually found in industrial education — rather, it is a method of teaching that can be used in other areas as well, such as business education or home economics.

It is suggested that the Production Science 30 course simulate a typical mass production business or industrial activity that incorporates the basic social and human principles of an industrial organization in a laboratory environment.

The attempt to identify the basic structure of industrial sociology must not be considered as final but rather as initial and exploratory, to be modified and revised through research and experimental practice.

One approach is to design a product that will include as many technological areas as possible. The laboratory may be organized to simulate an assembly line format. The students are to play roles, with the opportunity to change them when necessary.

Another approach is to develop an organization to provide a service.

Monies collected from the sale of a product may cover the cost of materials and offer a small percentage return in dividends to the shareholders.

Emphasis should be placed on safety.

OBJECTIVES

The main objective in Production Science 30 is that the student understands the role that humans play in the organizational structure of business and industry, their influence upon production, and the various problems encountered in producing a saleable product or service within a community.

It is hoped that through a production science approach the student will begin to understand:

1. the various demands and pressures of humans on technology and technology on humans in order to produce a product or service
2. the human factors as they affect the success or failure of an organization
3. the interrelationship of technologies
4. the mechanics of an organization.

CONTENT

1. An Introduction to Industry Through Production Technology
   - modern civilization and industrial dependence
   - facets of industry; men, machines, materials

2. Industry and Division of Labour
   - job and operation breakdowns
   - flow charts
   - labour allocations

3. Personnel Organization
   - industrial organization
   - formal organization
   - informal organization

4. Research and Development
   - elements of a saleable product
   - industrial research
   - prototype development

5. Simulated Industrial Production
   - industrial production
   - physical problems
   - sociological problems

6. Technological Changes
   - growth of knowledge
   - technological changes and humans

7. Career Opportunities

BASIC LEARNING RESOURCES

There are no basic learning resources for Production Science 30 at the present time.

INDUSTRIAL EDUCATION
12-22-32 SERIES
CAREER FIELDS

CONTENTS

Industrial Education 12-22-32 Series [general]

Career Fields
- Construction and Fabrication
- Electricity-Electronics
- Graphic Communications
- Horticulture
- Mechanics
- Personal Services

INDUSTRIAL EDUCATION 12-22-32 SERIES

INTRODUCTION

The Industrial Education 12–22–32 program is a series of modules that develop competencies leading to seven different career fields.

Entry into a career field may be gained by taking one of several introductory courses. These are:

1. the 12-level course designated for each major, or
2. two modules from the Industrial Education 10–20–30 series related to the anticipated major, or
3. one half of a 12-level course. The other half would be another half 12-level or a module from the 10-level program. The course would be recorded as Industrial Education 10.

Following the introductory course, the student may advance to the major area of study by selecting any number of 5-credit modules from the courses designated as 22- or 32-level. The scheduling and sequencing of the modules is the responsibility of the local school personnel but must be in accordance with the regulations pertaining to prerequisites.

A student registered in a 22- or 32-level course is regarded as taking a major in that course area. Having established a major, the student may select courses designated as minors and in this way broaden his or her practical skill base in a career field, or even several career fields. However, students must complete all the preceding modules in a major series (usually six) before taking the 32c module.

INDUSTRIAL EDUCATION
12-22-32 SERIES
CAREER FIELD
CONSTRUCTION AND FABRICATION

CONTENTS

Building Construction 12
Building Construction 22a
Building Construction 22b
Building Construction 22c
Building Construction 32a
Building Construction 32b
Building Construction 32c
Machine Shop 12
Machine Shop 22a
Machine Shop 22b
Machine Shop 22c
Machine Shop 32a
Machine Shop 32b
Machine Shop 32c
Piping 12
Piping 22a
Piping 22b
Piping 22c
Piping 32a
Piping 32b
Piping 32c
Sheet Metal 12
Sheet Metal 22a
Sheet Metal 22b
Sheet Metal 22c
Sheet Metal 32a
Sheet Metal 32b
Sheet Metal 32c
Welding 12
Welding 22a
Welding 22b
Welding 22c
Welding 32a
Welding 32b
Welding 32c

BUILDING CONSTRUCTION 12-22-32 SERIES

BUILDING CONSTRUCTION 12 (5 credits)

INTRODUCTION

Building Construction 12 is to be very broad in nature: a high level of skill development will not be expected.

OBJECTIVES

The objectives of the Building Construction 12 course are:

1. to give the student an understanding of the building construction field and related occupations

2. to introduce the student to the safe use of tools and acceptable procedures basic to the field of construction.

CONTENT

1. Tool Processes Used in Measuring and Layout
   - measuring and layout tools
2. Safety
3. Shaping Materials
   - removal
   - combining
   - forming
4. Tool Maintenance
5. Applied Mathematics and Measurement
   - trade mathematics
   - measurement systems (metric, imperial)
6. Planning and Design
7. Materials
   - wood
   - glue
   - wood finishes
8. Career Field Study
   - occupations
   - employment opportunities

BUILDING CONSTRUCTION 22a (5 credits)
(Cabinet and Furniture Making)

INTRODUCTION

This course is open to any student having completed Building Construction 12 or Industrial Education 10. Students have the opportunity to use tools and materials that challenge them to high standards of workmanship in the production of cabinets and furniture.

OBJECTIVES

The objective of the Building Construction 22a module is to introduce the student to basic design, materials and construction in cabinet work.

CONTENT

1. Introduction to Cabinet and Furniture Making
   - design
   - material
   - processes
   - tools
2. Basics of Cabinetmaking
   - joints assembly
3. Finishing
   - reasons for finishing
4. Design
   - function
   - appearance

BUILDING CONSTRUCTION 22b (5 credits)
(Concrete and Form Building)

INTRODUCTION

Students may register in Building Construction 22b following completion of Building Construction 12 or Industrial Education 10.

OBJECTIVES

The objectives of the Building Construction 22b module are:

1. to give the student practical experience in basic surveying for building layout
2. to give the student practice in constructing concrete forms
3. to give the student the opportunity to learn the properties of concrete, and how to mix and pour it
4. to give the student practice in quantity survey methods.

CONTENT

1. Principles of Laying Out Building Lines
   - legal description
   - reference points, soils and excavations
   - measurement of quantities
2. Introduction to Concrete Form Construction
   - foundations and footings
   - design of forms
   - measurement of quantities
3. Form Construction; Measurement of Quantities
4. Principles and Practices of Making Concrete
   - definition of concrete
   - materials used
   - proportions
   - testing
   - estimating

BUILDING CONSTRUCTION 22c (5 credits)
(Framing — Residential)

INTRODUCTION

This course is open to any student who has completed either Building Construction 12 or Industrial Education 10.

OBJECTIVES

The objectives of the Building Construction 22c module are:

1. to give the student practical experience in house framing
2. to give the student a basic knowledge of various types of framing and layout procedures in accordance with the codes regulating construction
3. to give the student practical experience in material quantity and cost estimating.

CONTENT

1. Floor Support and Framing Systems
   - wood foundations
   - build-up beams, girders and columns
   - floor joist systems
   - bracing
   - floor sheathing
   - quantity and cost survey
2. Wall Framing
   - basic framing systems
   - platform framing
   - wall sheathing
   - quantity and cost survey
3. Ceiling and Roof Framing
   - ceiling framing
   - roof framing
   - cornice work
   - roof sheathing
   - special ceiling and roof framing systems

BUILDING CONSTRUCTION 32a (5 credits)
(Exterior Finishing)

INTRODUCTION

This module primarily aims at introducing the student to exterior finishing in residential construction. Although blueprint reading, drawing and sketching has been dealt with in other modules, it should be pursued in greater depth in this module. Students may register in Building Construction 32a following completion of Building Construction 12 or Industrial Education 10.

The emphasis should be placed on student activity through on-site projects or mock-ups.

OBJECTIVES

The objectives of the Building Construction 32a module are:

1. to give the student experience in understanding working drawings and sketching
2. to develop an understanding of the influences of material and design on exterior finishing
3. to develop an awareness of materials, tools and procedures used to complete the exterior of a house.

CONTENT

1. Introduction to Exterior Finishing
2. Blueprint Reading, Architectural Drawing and Sketching
3. Safety

BUILDING CONSTRUCTION 32a (5 credits)
(Exterior Finishing) continued

4. Roof Coverings
5. Cornice and Eave Projection
6. Exterior Doors and Windows
7. Exterior Wall Coverings
8. Exterior Trim
9. Pictorial Drawing

BUILDING CONSTRUCTION 32b (5 credits)
(Interior Finishing)

INTRODUCTION

This course is open to any student who has completed Building Construction 12 or Industrial Education 10. It is recommended that students also have a minimum of one of the 22-level courses.

OBJECTIVES

The objectives of the Building Construction 32b module are:

1. to give the student practical experiences with materials, special tools and trade procedures employed in interior finishing

2. to introduce the student to the principles of insulation, vapour barrier, ventilation and energy conservation

3. to give the student a basic understanding of construction management and related trades

4. to give the student a basic understanding of stair construction

5. to give the student a basic understanding of construction and installation of interior doors

6. to give the student a basic understanding of construction and installation of cabinets, vanities and closets

7. to give the student a basic understanding of how to apply protective and decorative coatings.

CONTENT

1. Management and Related Trades
   - project costs and bids
2. Insulation, Vapour Barrier, Ventilation
   - energy efficiency
3. Interior Walls, Ceilings, Floors, Trim
4. Stair Construction
5. Interior Doors
   - types and accessories
   - fabrication and installation
6. Cabinets, Vanities and Closets
7. Protective and Decorative Coatings

BUILDING CONSTRUCTION 32c (5, 10 credits)

INTRODUCTION

This last module in the building construction major is open to students who have completed 30 credits or six modules in the major.

CONTENT

The instruction time available in this module may be used:

1. to provide greater depth to a module taken previously. Individual students, groups of students or the whole class may elect to study an area in depth. This could be cabinetmaking, framing (commercial or residential), concrete work or any of the modules named in the building construction sequence
2. to engage in actual construction work supervised by the building construction teacher as a work experience coordinator, and a journeyman on the job
3. to further preparation for students planning to enter apprenticeship.

BASIC LEARNING RESOURCES

Building Construction 12

Feirer, John L. *Cabinet Making and Millwork.* Fifth edition. Don Mills, ON: Collier Macmillan Canada, Inc., 1988.

ISBN 0026759500

Miller, H. G. *Hand and Machine Woodwork.* Metric edition. Agincourt, ON: Gage Educational Publishing Company, 1980.

ISBN 0771503229

Building Construction 22

Feirer, John L. *Cabinet Making and Millwork.* Fifth edition. Don Mills, ON: Collier Macmillan Canada, Inc., 1988.

ISBN 0026759500

Miller, H. G. *Building Construction: Materials and Methods.* Revised metric edition. Agincourt, ON: Gage Educational Publishing Company, 1980.

ISBN 077150599X

Building Construction 32

Miller, H. G. *Building Construction: Materials and Methods.* Revised metric edition. Agincourt, ON: Gage Educational Publishing Company, 1980.

ISBN 077150599X

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MACHINE SHOP
12-22-32 SERIES

MACHINE SHOP 12 (5 credits)
(Benchwork and Lathe Operations)

INTRODUCTION

Machine Shop 12 is designed to provide the student with theory and practice in: safety, machine maintenance, blueprint reading, layout and measurement, benchwork, machine tools, basic metallurgy and occupational information.

OBJECTIVES

The objectives of Machine Shop 12 are:

1. to provide the student with basic machine shop orientation and safety instruction
2. to teach the student basic skills in machine lubrication and maintenance
3. to provide the student with an opportunity to perform practical operations, using hand tools and machine tools
4. to give the student career and occupational information.

CONTENT

1. Safety Consciousness
   - unsafe acts and conditions
2. General Machine Shop Maintenance
   - machine lubrication
   - machine tool maintenance and repair
   - proper use and care of all tools and equipment
3. Blueprint Reading
   - object visualization and drawing interpretation
4. Layout and Measurement
   - measuring
   - layout
5. Benchwork
   - hand tools
6. Machine Tools
   - material removal by machining
7. Metallurgy
   - steel
8. Metalworking Occupations
   - career opportunities

MACHINE SHOP 22a (5 credits)

INTRODUCTION

Machine Shop 22a is designed to provide further skill training in basic machine shop theory and practice. A student can take Machine Shop 22a following either of the introductory courses Industrial Education 10 or Machine Shop 12.

OBJECTIVES

The objectives of the Machine Shop 22a module are:

1. to provide an opportunity for the student to identify conditions relevant to machine operations and surrounding areas that could be potentially injurious
2. to provide the student with an activity in technical drawing interpretation as it relates to a machine shop
3. to give the student hands-on experience in hand and machine operations commonly performed in a machine shop.

CONTENT

1. Safety and Health Hazards
2. General Machine Shop Maintenance
3. Blueprint Reading and Sketching
4. Benchwork
5. Metallurgy
6. Lathes
7. Large Drill Press
8. Power Saws
9. Shapers (optional)
10. Milling Machines (introductory)
11. Career Planning

MACHINE SHOP 22b (5 credits)
(Lathe, Milling and Grinding Operations)

INTRODUCTION

Machine Shop 22b continues from the experience of the 22a module with theory and practice in advanced lathe work, the introduction of the milling operation and surface grinding operations.

OBJECTIVES

The objectives of the Machine Shop 22b module are:

1. to continue the emphasis of safe working conditions and working habits
2. to provide increased skills in lathe work
3. to provide basic milling theory and practice
4. to introduce the student to various grinding procedures.

CONTENT

1. Safety and Health Hazards
2. General Machine Shop Maintenance
   - machine tool maintenance and repair
   - machine lubrication
3. Blueprint Reading, Sketching and Estimating
   - interpretation of drawings
   - sketching
   - estimating
4. Metallurgy
5. Lathes
6. Milling Machines
   - horizontal milling
   - vertical milling
7. Surface Grinding Machines
   - grinding operations
8. Fasteners
9. Broaching
10. Mating Parts

MACHINE SHOP 22c (5 credits)
(Advanced Machining)

INTRODUCTION

In Machine Shop 22c the content and practice advance to precision measuring and machining. Continued emphasis is placed on safety and machine maintenance. More advanced technical drawing interpretation leads to theory on metallurgy and metal cutting, and practice in advanced machining operations.

OBJECTIVES

The objectives of the Machine Shop 22c module are:

1. to reinforce the need for equipment maintenance and safety
2. to provide for interpretation of more advanced technical drawings
3. to provide information on cutting tool shape, chip formation and tool life
4. to provide experience in advanced machining operations.

CONTENT

1. Safety and Shop Regulations
2. General Machine Shop Maintenance
   - proper use and care of all tools and equipment
3. Blueprint Reading, Sketching and Design
   - sketching techniques
4. Metallurgy
   - steel and its alloys
   - metal finishes
5. Physics of Metal Cutting
   - chip formation
   - cutting tool geometry
   - tool life and the effect of temperature and friction
   - cutting fluids
6. Milling Machines
   - horizontal and vertical milling operations
7. Grinding Machines
   - grinding machine operations

MACHINE SHOP 32a (5 credits)
(Construction and Fabrication)

INTRODUCTION

Machine Shop 32a is an advanced module requiring an understanding of and an ability to practise the required basic operations in a machine shop. Besides the reinforcement of the basics this module concentrates on non-ferrous metals, forms of materials, advanced turning operations, horizontal and vertical milling and grinding.

OBJECTIVES

The objectives of the Machine Shop 32a module are:

1. to reinforce the basics in machine shop theory and practice
2. to introduce the student to properties and operations of non-ferrous metals
3. to provide for advanced experience in milling
4. to provide career information.

CONTENT

1. Safety and Shop Regulations
2. General Machine Shop Maintenance
3. Blueprint Reading and Sketching
4. Metallurgy (non-ferrous)
5. Materials in Different Forms
   - identification of stock forms
6. Lathes (advanced)
7. Advanced Milling Machine (optional)
   - horizontal milling
   - vertical milling
8. Grinding Machines

MACHINE SHOP 32b (5 credits)
(Advanced Machinery Operations)

INTRODUCTION

Machine Shop 32b provides the student with an orientation to surface finishing, welding specifications and symbols. The student gets experience in using machinery handbooks to solve various trade problems, and learns the theory and practice of such concepts as heat treating, jigs and fixtures, special machine operations and patents.

OBJECTIVES

The objectives of the Machine Shop 32b module are:

1. to reinforce desirable working habits and working conditions
2. to introduce the student to the interpretation and use of technical specifications and other data
3. to present to the student the theory and practice of the concept of heat treating
4. to introduce the student to special machine operations.

CONTENT

1. Safety and Health Hazards
2. General Machine Shop Maintenance
   - proper use and care of equipment
3. Blueprint Reading, Sketching and Estimating
4. Metallurgy
   - heat treating
   - acetylene welding
5. Jigs and Fixtures
6. Bearings Machine Shop
7. Lathe (advanced)
8. Advanced Milling Machine (optional)
9. Grinding Machines
   - grinding machine operations
10. Special Machine Processes (optional)
11. Patents
12. Career Opportunities
    - career field occupations
    - employment opportunities

MACHINE SHOP 32c (5, 10 credits)

INTRODUCTION

This last module in the machine shop major is open to students who have completed 30 credits or six modules in the major.

CONTENT

The 125 hours of instruction time available in this module may be used:

1. to provide greater depth for a module taken previously. Individual students, groups of students or whole classes may elect to study an area in depth. This could be more lathe work, metallurgy, other machining, or any of the modules named in the machine shop sequence
2. to engage in actual machining work supervised by the machine shop teacher or work study coordinator and a journeyman on the job.

BASIC LEARNING RESOURCES

Krar, S. F. and J. W. Oswald. *Machine Shop Training*. SI metric fourth edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1986.

ISBN 0075489511

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PIPING
12-22-32 SERIES

PIPING 12 (5 credits)

INTRODUCTION

Piping 12 is the introductory course to the piping modules. It provides the student with experiences found in the career field and an overview of the trade area so that an informed decision can be made about future studies.

OBJECTIVES

The objectives of the Piping 12 course are:

1. to give the student an understanding of the various pipe trades; plumbing, gasfitting, steamfitting, sprinkler fitting, solar heating pipework, etc.

2. to introduce the student to the safe use of tools and procedures particular to the piping industry

3. to provide an exploratory experience for career choice decision making.

CONTENT

1. Career Fields
2. Trade Study
   - apprenticeship and certification
   - structure of the piping industry
   - history and union organization
3. Safety
4. Measurement
5. Pipe Tools and Methods for Joining Pipe
6. Adapting Pipes and Fittings
7. Identifying, Selecting and Ordering Materials

PIPING 22a (5 credits)
(Domestic Plumbing)

INTRODUCTION

Students may advance to Piping 22a from either Industrial Education 10 or Piping 12.

OBJECTIVES

The objectives of the Piping 22a module are:

1. to provide the student with experience in following plumbing regulations
2. to provide the student with the theory and experience necessary to "rough in" and finish domestic plumbing.

CONTENT

1. Roughing In Procedures
   - plan, lay out, cut holes
   - assemble and install drains and vents
   - install water lines
   - rough in a bathtub
2. Finishing Procedures
   - set water closet (toilet)
   - hang or cut in lavatory basins or vanities
   - connect water lines
   - install water heater
   - finish and test

PIPING 22b (5 credits)
(Domestic Heating)

INTRODUCTION

Students may advance to Piping 22b from either Industrial Education 10 or Piping 12.

OBJECTIVES

The objectives of the Piping 22b module are:

1. to provide the student with learning experiences in the correct installation of hot water heating equipment for a house (home)
2. to provide the student with learning experiences in the correct and safe installation of gas burning appliances.

CONTENT

1. Hot Water Heating
   - sizing and erecting a boiler
   - selecting and installing radiation and convection systems
   - insulating and preparing for operation
   - adjusting and setting controls
2. Gasfitting
   - domestic
   - planning, sizing, laying out, installing and testing gas piping in a house
   - sizing and erecting gas appliances
   - activating, adjusting, setting and servicing gas appliances
   - venting gas appliances for domestic use
   - converting gas appliances for domestic use

PIPING 22c (5 credits)
(Commercial and Industrial Heating)

INTRODUCTION

Students may advance to Piping 22c after completion of either Industrial Education 10 or Piping 12.

OBJECTIVES

The objective of the Piping 22c module is to provide the student with experiences in the installation of low pressure steam heating equipment.

CONTENT

1. Low Pressure Steam Heating
    - sizing, erecting and installing a low pressure steam boiler
    - selecting and installing radiators, convectors and unit heaters
    - adjust and set controls
2. Applications of Steam Other Than for Heating
    - commercial uses of steam other than for heating
    - hanging and supporting pipe
    - expansion and contraction allowances

PIPING 32a (5 credits)
(Drawing and Estimating)

INTRODUCTION

Students may advance to Piping 32a upon completion of either one of the introductory courses, Industrial Education 10 or Piping 12, and one 22-level module in piping.

OBJECTIVES

The objectives of the Piping 32a module are:

1. to provide the student with opportunities to design and draw up two- or three-dimensional drawings for a domestic installation

2. to provide the student with opportunities to interpret drawings and make cost estimates for materials and labour.

CONTENT

1. Symbols, Scales, Specifications, Rough In Books, Drawing Instruments, Types of Lines and Drawings
2. Drawing Plans and Isometric Views of Piping
    - plan an elevation sketch
    - isometric drawing

PIPING 32b (5 credits)
(Commercial and Industrial Plumbing)

INTRODUCTION

Students may advance to Piping 32b from either Industrial Education 10 or Piping 12. This course is best taken in combination with any of the other 22-level or 32-level courses.

OBJECTIVES

The objectives of the Piping 32b module are:

1. to provide the student with the opportunity to design piping techniques for commercial buildings

2. to provide the student with the opportunity to practise installation techniques for commercial buildings.

CONTENT

1. Roughing In and Finishing Procedures in Multiple Storied Buildings or Industrial Plants
   - drains in large buildings
   - sleeves and inserts in large buildings
   - prefabrication techniques
   - wall-hung fixture
   - sizing rainwater leaders
   - "solventing" techniques

PIPING 32c (5, 10 credits)

INTRODUCTION

This last module in the piping major is open to students who have completed 30 credits or six modules in the major.

CONTENT

The instruction time available in this module may be used:

1. to provide greater depth to a module taken previously. Individual students, groups of students, or the whole class may elect to study an area in more detail. This could be in domestic plumbing, commercial plumbing, heating, air conditioning or any of the modules named in the piping sequence

2. to engage in actual pipefitting or plumbing work supervised by the piping teacher as a work coordinator, and by a journeyman on the job

3. to apply some of the time in work study or work experience now common in many schools in the province

4. to study the recently designated sprinkler systems installer trade and develop skills from earlier units that might apply

5. to introduce more advanced students to solar heating systems (i) passive, (ii) active, or (iii) those systems that will use solar panels to supplement existing heating systems for building or water supply.

BASIC LEARNING RESOURCES

Blankenbaker, E. Keith. *Modern Plumbing.* South Holland, IL: Goodheart-Wilcox, 1981.

ISBN 0870063251

D'Arcangelo, B. and J. R. Guest. *Blueprint Reading for Plumbers: Residential and Commercial.* Scarborough, ON: Nelson Canada, 1980.

ISBN 0827313675

Galeno, J. J. *Plumbing Estimating Handbook.* Scarborough, ON: Nelson Canada, 1976.

ISBN 0827317646

Meikle, H. E. et al. *Plumbing from the Ground Up.* HBJ-Holt-Saunders, 1981.

ISBN 0039201465

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SHEET METAL
12-22-32 SERIES

SHEET METAL 12 (5 credits)

INTRODUCTION

The general objective of Sheet Metal 12 is to offer the student a sampling of the type of work to be found in the career area, and thus give the student the knowledge necessary to make an informed decision about future studies.

OBJECTIVES

The objectives of the Sheet Metal 12 course are:

1. to give the student an understanding of the sheet metal worker's role in industrial society
2. to introduce the student to the safe use of tools and acceptable procedures basic to the sheet metal trade.

CONTENT

1. Career Field Occupations
    - related occupations
    - employment opportunities
    - trade certification
2. Safety
3. Industrial Forces
    - social structure of industry
    - collective bargaining
    - apprenticeship
4. Measurement
    - systems (metric, imperial)
    - measuring instruments
    - layout instruments
5. Tool Processes
    - mechanical removal of metal
    - thermal removal
    - chemical removal
    - combining material; fastening methods
    - forming
6. Elements of Pattern Development
    - simple pattern development
    - parallel line development
    - radial line development

SHEET METAL 22a (5 credits)
(Pattern Development)

INTRODUCTION

Students may advance to Sheet Metal 22a following completion of an introductory course in Industrial Education 10 or Sheet Metal 12. Sheet Metal 22a is prerequisite to 22b.

OBJECTIVES

The objective of the Sheet Metal 22a module is to introduce the student to the principles of pattern development.

CONTENT

1. Principles of Sheet Metal Layout
   - simple pattern development
   - parallel line development
   - radial line development
   - triangulation

SHEET METAL 22b (5 credits)
(Joining)

INTRODUCTION

Students may advance to Sheet Metal 22b from Sheet Metal 22a.

OBJECTIVES

The objective of the Sheet Metal 22b module is to introduce the student to the basic methods of joining and fastening sheet metal products.

CONTENT

1. Joining Sheet Metal
   - mechanical methods of joining
   - self-locking seams
   - adhesion
   - cohesion

SHEET METAL 22c (5 credits)
(General)

INTRODUCTION

Students may advance to Sheet Metal 22c following completion of, or concurrently with, Sheet Metal 22b.

OBJECTIVES

The objective of the Sheet Metal 22c module is to introduce the student to methods of constructing and fabricating sheet metal products.

CONTENT

1. General Sheet Metal Work
   - tools and equipment
   - rectangular objects
   - conical objects

SHEET METAL 32a (5 credits)
(Heating and Air Conditioning)

INTRODUCTION

Students must have completed the 22-level series before advancing to Sheet Metal 32a.

OBJECTIVES

The objectives of the Sheet Metal 32a module are:

1. to introduce the student to the fundamentals of heating

2. to introduce the student to the fundamentals of air conditioning.

CONTENT

1. Heating and Air Conditioning
   - air conditioning systems; types, installations, controls
   - heating systems; fittings, installations, controls
   - new developments; solar systems, high efficiency furnaces

SHEET METAL 32b (5 credits)
(Cabinet Work)

INTRODUCTION

Students may advance to Sheet Metal 32b after completion of the 22-level series.

OBJECTIVES

The objective of the Sheet Metal 32b module is to introduce the student to cabinet work related to the sheet metal trade.

CONTENT

1. Introduction to Sheet Metal Cabinet Work
   - hospital equipment
   - restaurant equipment
   - general cabinet work
   - lay out and manufacture one cabinet-type project

SHEET METAL 32c (5, 10 credits)

INTRODUCTION

This last module in the sheet metal major is open to students who have completed 30 credits or six modules in the major.

CONTENT

The 125 hours of instruction time available in this module may be used:

1. to provide greater depth to a module taken previously. An individual student, groups of students or whole classes may elect to study an area in more detail. This in-depth study could be in pattern development, air conditioning, heating, or any of the modules named in the sheet metal sequence

2. to engage in actual sheet metal work supervised by the sheet metal teacher as a work coordinator, and by a journeyman on the job.

BASIC LEARNING RESOURCES

Daugherty, Powell. *Sheet Metal Pattern Drafting and Shop Problems.* Chas. A. Bennett Co. Inc., 1975.

Zinngrabe, C. J. and F. W. Schumacher. *Practical Layout for the Sheet Metal Shop.* Delmar Publishers, 1975.

Zinngrabe, C. J. and F. W. Schumacher. *Sheet Metal Hand Processes.* Scarborough, ON: Nelson Canada, 1974.

ISBN 0827302207

Zinngrabe, C. J. and F. W. Schumacher. *Sheet Metal Machine Processes.* Scarborough, ON: Nelson Canada, 1975.

ISBN 0827302223

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WELDING
12-22-32 SERIES

WELDING 12 (5 credits)
(Introductory Welding)

INTRODUCTION

Welding 12, introductory welding, provides the opportunity for the student to explore the subject of welding and develop introductory-level skills. Upon successful completion of this module, the student may proceed to Welding 22a, fundamental welding.

OBJECTIVES

The objectives of the Welding 12 course are:

1. to give the student an understanding of the role of the welder in industrial society

2. to introduce the student to the safe use of tools and acceptable procedures basic to the welding trade.

CONTENT

1. Introduction to Welding
2. Safety
3. Fusion Welding
   - oxyacetylene equipment
   - setting up new equipment
   - gas pressure and flame adjustments
   - shop practices
   - arc welding, basic process
4. Thermal Separation
5. Measurement, Tools and Shop Equipment
6. Braze Welding and Soldering
7. Fabrication and Repair

WELDING 22a (5 credits)
(Fundamental Welding)

INTRODUCTION

Welding 22a, fundamental welding, provides the opportunity for the student to develop basic welding skills. Students may advance to this module from either Welding 12 or Industrial Education 10. Upon successful completion of this module, the student may proceed to Welding 22b (Intermediate Welding) or Welding 32b (Fabrication and Repair).

OBJECTIVES

The objectives of the Welding 22a module are:

1. to provide the opportunity for the student to develop safe working habits

2. to provide the opportunity for the student to develop fundamental welding skills.

CONTENT

1. Safety
2. Blueprint Reading and Sketching
   - shape description
   - sketching
   - dimensions
   - symbols
3. Electric Arc Process
4. Oxyfuel Process
   - safety review
   - oxyfuel torch
   - pipe welding
5. Fabrication and Repair
   - build projects to shop standards
   - repair projects to shop standards

WELDING 22b (5 credits)
(Intermediate Welding)

INTRODUCTION

Welding 22a, fundamental welding, is prerequisite to this module. Welding 22b, intermediate welding, is designed to further the student's competencies in welding and introduce him or her to additional processes.

OBJECTIVES

The objectives of the Welding 22b module are:

1. to provide for in-depth study and skill development in oxyfuel and electric arc welding techniques

2. to introduce the student to oxyfuel and electric arc specialty techniques.

CONTENT

1. Safety
2. Sketching
3. Blueprint Reading
4. Metal Identification
5. Metallic Arc Welding
   - use of a variety of electrode types
   - fusion
   - pipe welding
6. Oxyfuel Welding
   - fusion welding
   - braze welding ferrous and non-ferrous metals
   - brazing dissimilar metals
   - fusion of cast iron (optional)
7. Fabrication and Repair

WELDING 22c (5 credits)
(Advanced Welding)

INTRODUCTION

Welding 22b, intermediate welding, is prerequisite to this module. Welding 22c is designed to further the student's competencies in welding and introduce him or her to inert gas welding.

OBJECTIVES

The objectives of the Welding 22c module are:

1. to provide the student with the opportunity for in-depth study and skill development in oxyfuel and electric arc welding techniques

2. to introduce the student to specialty techniques

3. to introduce the student to inert gas welding.

CONTENT

1. Safety
2. Sketching
3. Blueprint Reading
4. Electric Arc Processes
5. Special Oxyfuel Applications
   - fusion welding; non-ferrous metals
   - hardsurfacing
6. Gas Metallic Arc Welding (GMAW)
7. Gas Tungsten Arc Welding (GTAW) (optional)
8. Fabrication and Repair

WELDING 32a (5 credits)
(Specialization in Welding)

INTRODUCTION

Students wishing to enroll in Welding 32a must have completed Welding 22a and 22b. It is strongly recommended that they should have completed Welding 22c.

OBJECTIVES

The objectives of the Welding 32a module are:

1. to provide the student with an in-depth study of blueprint reading, drawing and sketching, and layout as related to welding

2. to provide the student with the opportunity to weld, using the gas metallic arc welding process

3. to provide the student with the opportunity to lay out templates related to the fabrication of pipe joints.

CONTENT

1. Welding Shop Safety
2. Sketching, Drafting and Blueprint Reading
   - line conventions
   - projections
   - freehand sketching
   - welding symbols
3. Gas Metallic Arc Welding
4. Template Layout and Pattern Development
   - the wrap-around
   - division of pipe
   - angle of cut
   - pipe layout
   - pipe template development
   - pipe welding (optional)

WELDING 32b (5 credits)
(Fabrication and Repair)

INTRODUCTION

Welding 32b emphasizes the systematic planning, design and production techniques encountered in the fabrication and/or repair of various minor and major weldments. Students may advance to this module from Welding 22a.

OBJECTIVES

The objectives of the Welding 32b module are:

1. to provide the student with experiences in the fabrication and/or repair of suitable weldable items from drawings, models or other specific instructions

2. to provide the opportunity for the student to examine basic metallurgy as it applies to welding.

CONTENT

1. Welding Shop Safety
   - safety reinforcement
   - accident reporting and recording
2. Fabrication and Repair
   - design and fabrication
   - working from a drawing
   - following verbal direction
   - repair using a variety of welding techniques
3. Metallurgy
   - properties of metals
   - identification of metals
   - classification

WELDING 32c (5, 10 credits)

INTRODUCTION

This last module in the welding major is open to students who have completed 30 credits or six modules in the major.

CONTENT

The 125 hours of instruction time available in this module may be used:

1. to provide greater depth to a module taken previously in the welding sequence. Individual students, groups of students or the whole class may elect to study an area in depth. This could be special welding techniques, fabrication of special projects, or research in metallurgy

2. to engage in actual welding on the job, supervised by the welding teacher as a work coordinator, and by a journeyman.

BASIC LEARNING RESOURCES

Althouse, Andrew D. et al. *Modern Welding: Complete Coverage of the Welding Field in One Easy-to-use Volume!* South Holland, IL: Goodheart-Wilcox, 1984.

ISBN 0870064339

Bennett, A. E. and Louis J. Siy. *Blueprint Reading for Welders.* Third edition. Scarborough, ON: Nelson Canada, 1983.

ISBN 0827321449

Pender, James A. *Welding.* SI metric third edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1986.

ISBN 0075489538

The courses in this section will be revised over the next few years. Information regarding basic learning resources may not be complete or current. Consult your Learning Resources Distributing Centre's *Buyers Guide* for current information.

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INDUSTRIAL EDUCATION
12-22-32 SERIES
CAREER FIELD
ELECTRICITY–ELECTRONICS

CONTENTS

Electricity–Electronics 12
Electricity 22a
Electricity 22b
Electricity 22c
Electricity 32a
Electricity 32b
Electricity 32c
Electronics 22a
Electronics 22b
Electronics 22c
Electronics 32a
Electronics 32b
Electronics 32c

ELECTRICITY–ELECTRONICS 12

ELECTRICITY-ELECTRONICS 12 (5 credits)
(Common Module)

INTRODUCTION

The introductory Electricity-Electronics 12 course is a 5-credit course leading into either electricity or electronics.

OBJECTIVES

The objectives of the Electricity-Electronics 12 course are:

1. to provide the student with an orientation to the technical and industrial environment
2. to provide the student with information about opportunities in the fields of electricity and electronics
3. to provide the student with the electrical theory required to advance to other related courses.

CONTENT

1. Career Fields
   - occupational information
2. Safety, First Aid, Use of Hand and Power Tools
3. Electricity
   - definition and sources
4. Conductors and Insulators
5. Magnetism and Electromagnetism
6. Electrical Units, Measurement, Circuits, Diagrams and Laws
7. Making Connections, Electrical Circuits
8. Systems Study and Project Work
   - audio
   - electrical distribution
   - generation plants
   - broadcast receiver
   - others that are appropriate

BASIC LEARNING RESOURCES

Canadian Electrical Code, Part 1, CSA. Sixteenth edition, 1990.

ISBN 0003175669

Clidero, Robert K. and Kenneth H. Sharpe. *Applications of Electrical Construction*. SI metric second edition. Don Mills, ON: General Publishing Co., 1979.

ISBN 0773650288

Graham, R. H. *Explorations in Electricity and Electronics*. Scarborough, ON: McGraw-Hill Ryerson Limited, 1981.

ISBN 0070923477

Long, Frank J. *Intermediate Electricity*. Third edition. Toronto, ON: General Publishing Co., Ltd., 1985.

ISBN 0773650296

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ELECTRICITY
22-32 SERIES

ELECTRICITY 22a (5 credits)

INTRODUCTION

Electricity 22a is designed to give the student sufficient skill and knowledge to be able to achieve effectively in subsequent courses in electricity. Students may advance to this course from either Electricity-Electronics 12 or Industrial Education 10.

OBJECTIVES

The objectives of the Electricity 22a module are:

1. to provide background in the basic principles of active and reactive circuits, including their application

2. to provide opportunities to develop skills in the use of test instruments that apply to active and reactive circuits.

CONTENT

1. Alternating Voltage and Current
   - AC power generation
   - audio and radio signals
2. Inductance
3. Capacitance
4. Capacitive Reactance
5. Capacitive Circuits
6. Alternating Current Circuits
7. Semiconductor and Vacuum Tube Diode
8. Power Supplies

ELECTRICITY 22b (5 credits)
(Residential Wiring)

INTRODUCTION

Electricity 22b introduces the student to basic residential wiring. The introductory course, Electricity–Electronics 12, or Industrial Education 10 and Electricity 22a are prerequisites.

OBJECTIVES

The objectives of the Electricity 22b module are:

1. to introduce the student to concepts of electrical wiring in the home

2. to allow the student to develop skill in the use of tools, equipment and instruments particular to the electrical field

3. to familiarize the student with the electrical code and its application.

CONTENT

1. Career Opportunities
2. Safety
3. Residential Wiring Installations
   - planning
   - installation
   - re-wiring
4. Management Practices
   - organization
   - bidding for work
   - employee concerns

ELECTRICITY 22c (5 credits)
(Electrical Servicing)

INTRODUCTION

Electricity 22c is a 5-credit module in electrical servicing. Students may advance to this module from Electricity 22a.

OBJECTIVES

The objectives of the Electricity 22c module are:

1. to provide the student with skills in troubleshooting electrical appliances

2. to provide the student with servicing skills.

CONTENT

1. Occupational Information
2. Service Equipment
   - care and use of hand tools and meters
   - finding service information
3. Troubleshooting
   - safety
   - cleaning appliances
   - procedures for finding problems
4. Inservicing Procedures
5. Servicing Domestic Appliances
6. Estimating and Pricing
7. Service Factors

ELECTRICITY 32a (5 credits)
(Commercial Wiring)

INTRODUCTION

The student may advance to Electricity 32a from Electricity 22b.

OBJECTIVES

The objectives of the Electricity 32a module are:

1. to provide the student with the fundamental skill and knowledge required in electrical construction, and to familiarize him or her with the tools, fittings and equipment used in industry

2. to provide a background of electrical code regulations so that the student may understand the reason for various restrictions and regulations, and so that the student may develop a standard of performance that would enable him or her to enter the electrical construction field upon completion

3. to introduce the student to the various systems used in providing electrical outlets of all types in large residential, commercial and industrial installations

4. to familiarize the student with the specialized terminology and equipment in the domestic and commercial heating controls field.

CONTENT

1. Technical Drawing
   - plan views, dimensioning and symbols
2. Wiring Methods
   - raceways and conductors
   - tools and equipment
   - fittings and boxes
3. Installation of Services and Feeders
   - service entrance
   - protective equipment
   - metering equipment
4. Control Equipment
5. Installation of Lighting Equipment
   - lighting equipment
   - special equipment
6. Heating Controls

ELECTRICITY 32b (5 credits)
(Electromechanical)

INTRODUCTION

This module on electromechanical systems may be taken following completion of Electricity 22c. The course will provide a helpful background for the student planning a career in the apprenticeship area, if taken in conjunction with, or in sequence with the residential and commercial wiring courses.

OBJECTIVES

The objectives of the Electricity 32b module are:

1. to introduce the student to all forms of rotating electrical machinery including the principles of operation and electrical theory and calculations

2. to provide the student with opportunities to work with large and small AC and DC generators and motors and to gain an understanding of the characteristics of each by a series of experiments and work projects

3. to provide the proper technical skill and knowledge for the student who may decide to proceed further into the challenging field of electrical technology. This course should enable students to find out if they have the ability and interest to proceed in this technology.

ELECTRICITY 32b (5 credits)
(Electromechanical) continued

CONTENT

1. DC Generators
2. DC Motors
3. AC Generators
4. AC Motors
5. Transformers

ELECTRICITY 32c (5, 10 credits)
(Industrial Electricity)

INTRODUCTION

This final module in the electricity major is open to students who have completed 30 credits or six modules in the major.

CONTENT

Instruction time in this module may be used:

1. to provide greater depth in modules taken previously. Individual students, groups of students or whole classes may elect to study an area in more detail. The in-depth study could be in residential wiring, electrical servicing or any of the other modules listed in the sequence
2. to engage in actual wiring or electrical repair work by means of a program coordinated by the electricity teacher, and under the supervision of a journeyman on the job.

CONTENT

1. Measurement
   - oscilloscope.
2. Semiconductor Theory
   - subatomic structure
3. Semiconductor Applications
   - power supply
   - transistors

BASIC LEARNING RESOURCES

Canadian Electrical Code, Part I, CSA. Sixteenth edition. 1990.

ISBN 0003175669

Clidero, Robert K. and Kenneth H. Sharpe. *Applications of Electrical Construction.* SI metric second edition. Don Mills, ON: General Publishing Co., 1979.

ISBN 0773650288

Long, Frank J. *Intermediate Electricity.* Third edition. Toronto, ON: General Publishing Co., Ltd., 1985.

ISBN 0773650296

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ELECTRONICS
22-32 SERIES

ELECTRONICS 22a (5 credits)

INTRODUCTION

Electronics 22a is designed to give the student sufficient skill and knowledge to be able to achieve effectively in subsequent courses in electricity or electronics. Students may advance to this course from either Electricity–Electronics 12 or Industrial Education 10.

Electronics 22a is a prerequisite to Electronics 22b and Electronics 22c.

OBJECTIVES

The objectives of the Electronics 22a module are:

1. to provide background in the basic principles of active and reactive circuits including their application

2. to provide opportunities to develop skills in the use of test instruments that apply to active and reactive circuits.

CONTENT

1. Alternating Voltage and Current
2. Inductance
3. Capacitance
4. Capacitive Circuits
5. Alternating Current Circuits
6. Resonance (LCR circuits)
7. Electrical Filters
8. Cathode Ray Tube (CRT)
9. Power Supply
10. Complex Numbers (optional)

2 4

ELECTRONICS 22b (5 credits)

INTRODUCTION

Electronics 22b provides a general outline allowing a large amount of freedom in developing the course content. The module should provide an opportunity for practical experience in the study of the material. Students may advance to this module from Electronics 22a.

OBJECTIVES

The objectives of the Electronics 22b module are:

1. to introduce the student to solid state electronics
2. to familiarize the student with current trends in the manufacture and design of electronic equipment
3. to enable the student to test various solid state circuitry.

CONTENT

1. Solid State Fundamentals
2. Junctions
3. Transistors
4. Other Solid State Devices
5. Integrated Circuits

ELECTRONICS 22c (5 credits)

INTRODUCTION

This module covers digital logic based on the transistor-to-transistor logic family of integrated circuits. It is designed to familiarize the student with basic logic gates and provide an introduction to large-scale integrated circuits used in various related technologies. Students may advance to this module from either Electronics 22a or Electronics 22b.

OBJECTIVES

The objectives of the Electronics 22c module are:

1. to familiarize the student with the digital logic field of electronics
2. to give the student the opportunity to learn basic binary concepts and logic circuits and study some practical subsystems fundamental to communications, control and computer applications.

CONTENT

1. Numbering Systems
   - numbering system conversion
   - arithmetic functions
2. Fundamental Digital Concepts and Basic Electronic Building Blocks
   - introduction to AND, OR and NOT
   - basic logic gates
   - logic conventions
   - power requirements of TTL and CMOS ICs
   - logic families
   - radiant emission from semiconductor PN junctions
3. Boolean Algebra
   - Boolean laws and theorems
4. Codes
   - numeric codes
5. Electronic Realization of Logic Circuits
   - relationship between logic gates
   - combination circuits
   - practical circuits
   - sequential circuits
6. Application of Logic Circuits in Integrated Circuits
   - operations using ICs

ELECTRONICS 32a (5 credits)

INTRODUCTION

The Electronics 32a course is designed to provide an opportunity for the student to study the theory and practice of radio communication. The student may elect to proceed to Electronics 32a following completion of Electronics 22b or 22c.

OBJECTIVES

The objectives of the Electronics 32a module are:

1. to introduce the student to the theory of radio communication
2. to enable the student to diagnose, measure and service AM–FM circuits, devices and systems.

CONTENT

1. Power Supply Circuits
   - DC power requirements B+
2. Audio Amplifier Fundamentals
   - power amplifiers
   - voltage amplifiers

ELECTRONICS 32b (5 credits)

INTRODUCTION

Electronics 32b may be elected following the Electronics 32a module.

This module is designed to provide the student with a basic course on television receivers. It will provide the student with skills and knowledge of the television system that may lead to employment, complement other high school or post-high school studies, or satisfy individual avocational interests. The course will provide the student with an opportunity to work with advanced electronic circuitry of the type present in virtually all homes today.

Prior to registering for this module, it is recommended that the student be thoroughly familiar with basic electronic and electrical theory, be thoroughly familiar with basic lab test equipment and have a good understanding of radio receiver operations and servicing.

OBJECTIVES

The objectives of the Electronics 32b module are:

1. to provide the student with the opportunity to work with advanced circuitry and test equipment
2. to introduce the student to the theory of TV receivers
3. to provide the student with skills in TV servicing.

CONTENT

1. Introduction to the Production of TV Pictures
2. Television Picture Tube Accessories
3. Television Power Supply
4. Deflection Oscillators

ELECTRONICS 32b (5 credits) continued

5. Synchronization Circuits and Automatic Frequency Control
6. Vertical Sweep Section
7. Horizontal Sweep Section
8. Video Detector and Amplifier
9. Picture IF System
10. The RF Tuner
11. TV Sound System
12. Colour Television
13. Antenna and Transmission Lines

ELECTRONICS 32c (5, 10 credits)

INTRODUCTION

This module covers digital computers. It is designed to familiarize the student with the operation of the computer from both digital logic and programming viewpoints. Students may advance to this module from either Electronics 22c or Electronics 32b.

OBJECTIVES

The objectives of the Electronics 32c module are:

1. to provide the student with technical knowledge of the computer so that he or she can understand its operation

2. to provide the student with the opportunity to improve programming skills.

CONTENT

1. Advanced Programming and Interfacing

BASIC LEARNING RESOURCES

Graham, R. H. *Explorations in Electricity and Electronics.* Scarborough, ON: McGraw-Hill Ryerson Limited, 1981.

ISBN 0070923477

Grob, Bernard. *Basic Electronics.* Fifth edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1984.

ISBN 0070249288

Long, Frank J. *Intermediate Electricity.* Third edition. Toronto, ON: General Publishing Co., Ltd., 1985.

ISBN 0773650296

Malvino, Albert Paul. *Semiconductor Circuit Approximations: An Introduction to Transistors and Integrated Circuits.* Fourth edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1985.

ISBN 0070398984

Prentiss, G. *Color T.V. Theory and Troubleshooting.* Scarborough, ON: Prentice-Hall Canada Inc., 1979.

ISBN 0835908488

Tokheim Roger L. *Digital Electronics.* Second edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1984.

ISBN 0070649804

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INDUSTRIAL EDUCATION
12-22-32 SERIES
CAREER FIELD
GRAPHIC COMMUNICATIONS

CONTENTS

Drafting 12
Drafting 22a
Drafting 22b
Drafting 22c
Drafting 32a
Drafting 32b
Drafting 32c
Visual Communications 12
Visual Communications 22a
Visual Communications 22b
Visual Communications 22c
Visual Communications 32a
Visual Communications 32b
Visual Communications 32c
Graphic Arts 22a
Graphic Arts 22b
Graphic Arts 22c
Graphic Arts 32a
Graphic Arts 32b
Graphic Arts 32c

DRAFTING
12-22-32 SERIES

DRAFTING 12 (5 credits)

INTRODUCTION

Drafting 12 is designed to provide the student with experiences that allow him or her to sample the various kinds of drawings used within the field generally. These activities should enable the student to make an informed decision about further studies in the drafting field. The course allows the student to advance to the following majors: Drafting 22, Visual Communications 22 and Graphic Arts 22.

OBJECTIVES

The objectives of the Drafting 12 course are:

1. to provide a practical environment that will enable the student to make a more realistic assessment of his or her interests and aptitudes

2. to allow the student to develop basic knowledge, understanding and appreciation of drafting processes and materials.

CONTENT

1. Introduction to Drafting
   - standardized symbolic language
   - quality criteria
2. Drafting Equipment
   - use, care and adjustment of tools
   - characteristics of lines
3. Geometric Construction
   - basic geometric shapes
   - drawing techniques
4. Reproduction of Drawings
   - materials used
   - processes
5. Shape Description
   - multiview drawings
   - pictorial drawings
   - sketching
6. Size Description
   - dimensioning practices
   - special features and specifications
7. Auxiliary View
   - primary auxiliary views (true size and shape of inclined surfaces)
8. Sectioning
   - types of sections
   - materials representation

DRAFTING 22a (5 credits)
(Engineering Basics)

INTRODUCTION

After completing one of Visual Communications 12, Industrial Education 10, Drafting 10 or Drafting 12, a student may advance to Drafting 22a.

OBJECTIVES

The objectives of the Drafting 22a module are to provide study in:

1. the application of drafting theory and techniques consistent with mechanical drawing standards
2. fabrication processes
3. materials, their properties and use.

CONTENT

1. Shape and Size Description
    - orthographic multiview projections
    - pictorial drawings
2. Fasteners — Mechanical
    - common thread fasteners
    - special fasteners
    - miscellaneous fasteners
3. Fasteners — Non-mechanical
    - adhesion
    - cohesion
4. Forming Processes
    - casting drawings
    - forging
    - cold heading and powder metallurgy in relation to drawings
    - mechanical drawings
    - other forming methods
5. Elementary Piping
    - materials used
    - joining pipe
    - representing piping systems
6. Detail and Assembly Drawings
    - detail drawings
    - assembly drawings
    - checking
7. Computer Graphics (optional)
    - computer assisted drafting (CAD)

DRAFTING 22b (5 credits)
(Architectural Drafting)

INTRODUCTION

Drafting 22b, architectural drafting, follows Drafting 10, Drafting 12, Industrial Education 10 and Drafting 22a and prepares the student to enter other drafting modules, particularly Drafting 32b.

OBJECTIVES

The objectives of the Drafting 22b module are:

1. to provide the student with basic knowledge and skills in the residential architectural field
2. to provide the student with knowledge of house building standards, terminology and design factors
3. to provide the student with the ability to read and interpret the appropriate building codes and standards
4. to have the student develop drafting skills and techniques in this field of drafting.

CONTENT

1. Architectural Drafting
    - drafting practices
    - planning
    - structural systems
    - working drawings
    - perspective drawings
2. Computer Graphics (optional)

DRAFTING 22c (5 credits)
(Topographical Drafting)

INTRODUCTION

Drafting 22c, topographical drafting, follows Drafting 10, Drafting 12, Industrial Education 10 and Drafting 22B.

OBJECTIVES

The objective of the Drafting 22c module is to provide the student with basic knowledge and skills in the topographical drafting field.

CONTENT

1. Surveying
   - gathering data
   - surveying
2. Topographical Drafting (cartography)
   - drawing equipment
   - interpretation of field notes
   - photogrammetry
   - geographical data
   - methods of map projection (optional)
   - modelling (optional)

DRAFTING 32a (5 credits)
(Engineering Graphics)

INTRODUCTION

Drafting 32a, engineering graphics, follows Drafting 22a and is an appropriate course for the serious drafting student, or the student wishing to enter engineering.

OBJECTIVES

The objectives of the Drafting 32a module are:

1. to provide the student with in-depth studies and experiences in engineering graphics

2. to develop the further understanding and skills required of drafters.

CONTENT

1. Auxiliary Views
   - primary auxiliary views
   - secondary auxiliary views
2. Revolutions
   - simple and successive revolutions
3. Intersections and Surface Development
   - intersections
   - developments of truncated shapes
   - triangulation
4. Resolution of Forces
   - resultant of forces
5. Piping Drawings
   - materials used in piping
   - joining pipe and tubing
   - pipefittings
   - representing piping systems

DRAFTING 32b (5 credits)
(Advanced Architectural Drafting)

INTRODUCTION

Drafting 32b, advanced architectural drafting, follows Drafting 22b. It is designed to increase the student's understanding of architectural drafting.

OBJECTIVES

The objectives of the Drafting 32b module are:

1. to increase the student's knowledge and skills in architectural drawing
2. to provide the student with the ability to read and interpret the appropriate building codes and standards.

CONTENT

1. Advanced Architectural Drafting
   - planning and design
   - structural systems
   - working drawings

DRAFTING 32c (5, 10 credits)

INTRODUCTION

This last module in the drafting major is open to students who have completed 30 credits or six modules in the major.

CONTENT

The 125 hours of instruction time available in this module may be used:

1. to provide greater depth to a module taken previously. Individual students, groups of students or whole classes may elect to study an area in more detail
2. to engage in on-the-job drafting, supervised by the drafting teacher as a work coordinator, and a competent person on the job
3. to take instruction in a related field such as building construction or machine shop.

BASIC LEARNING RESOURCES

French, Urbanek and Helsel Svenson. *Mechanical Drawing*. SI metric. McGraw-Hill Ryerson.

Helper, Donald E. and Paul I. Wallach. *Architecture: Drafting and Design*. Fourth edition. New York, NY: McGraw-Hill, 1982.

ISBN 007028301X

Jensen and Mason. *Drafting Fundamentals*. Fifth edition. 1982.

Mechanical Engineering Drawing Standards, B78-1, CSA.

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VISUAL COMMUNICATIONS 12-22-32 SERIES

VISUAL COMMUNICATIONS 12 (5 credits)

INTRODUCTION

Visual Communications 12 is an introductory course to the graphic communications field and allows the student to advance to one of the following majors: Drafting 22, Visual Communications 22 or Graphic Arts 22.

OBJECTIVES

The objectives of the Visual Communications 12 course are:

1. to provide a practical environment that will enable the student to make a more realistic assessment of his or her interests and aptitudes

2. to develop basic knowledge, understanding and appreciation of graphic communication materials and processes.

CONTENT

1. Introduction
   - commercial art and graphic arts relationship
   - historical developments and tradition
   - relationship with industry
   - occupational information
   - safety
2. Image Creation
   - basic drawing
   - composition and design
   - symbols
   - layout
   - typographic composition
3. Conversion Processes
   - image conversion:
     - elements and principles of composition
     - photographic materials
     - camera types, functions and techniques
     - developing and printing
     - silkscreen printing
     - process camera
     - platemaking
4. Production Processes
   - presses
   - silkscreen stencils
   - materials
5. Finishing Processes
   - bindery operations

VISUAL COMMUNICATIONS 22a (5 credits)

INTRODUCTION

Visual Communications 22a may be taken by a student following an introductory course at the 12-level, which may be Industrial Education 10, Drafting 10, Drafting 12 or Visual Communications 12.

OBJECTIVES

The objective of the Visual Communications 22a module is to provide practical experiences for the student to learn the necessary terminology, tools and techniques of illustration, photography and print making in order to communicate ideas and information with accuracy and individuality.

CONTENT

1. Photographic Arts
   - introduction
   - image creation
   - image conversion
2. Reproduction Processes
3. Application of Design Principles
   - screen photography
   - platemaking
4. Animation
5. Serigraphy
6. Three-dimensional Design
7. Perspective
8. Visual Merchandising
9. Promotional Display

VISUAL COMMUNICATIONS 22b (5 credits)

INTRODUCTION

Visual Communications 22b provides the student with a working understanding of photoillustration and its application to the communication process. This module may be taken by a student following one of the introductory courses, namely: Visual Communications 12, Industrial Education 10, Drafting 10 or Drafting 12.

OBJECTIVES

The objective of the Visual Communications 22b module is to enable the student to learn the use of the necessary terminology and techniques of advertising design, illustration, photography and print making in order to communicate ideas and information with accuracy and originality.

CONTENT

1. Photoillustration
2. Application to Mass Production
   - process camera
   - screen photography
3. Reproduction Processes

VISUAL COMMUNICATIONS 22c (5 credits)

INTRODUCTION

Visual Communications 22c provides the student with an understanding of the interrelationship between commercial art and other areas of visual communications. Students may take Visual Communications 22c after completing Visual Communications 12, Industrial Education 10, Drafting 10 or Drafting 12.

OBJECTIVES

The objective of the Visual Communications 22c module is to enable the student to learn the use of the necessary terminology and techniques of advertising design, lettering, creation of forms and display in order to communicate ideas and information with accuracy and originality.

CONTENT

1. Introduction — Image Creation
   - review of interrelationships of areas
   - occupational and educational opportunities
   - current practices in relation to traditions
2. Tools and Materials — Image Creation
   - tools
   - media/medium
   - techniques
   - resource information file
3. Two-dimensional Design — Image Creation
   - shapes
   - forms
   - images
4. Colour Theory — Image Creation
   - the psychological characteristics of colour
   - the 12-colour wheel
   - colour schemes
5. Application — Image Creation
   - history
   - illustration
6. Illustration — Image Creation
   - the emphasis of visual reality
   - the illustration of objects from life
   - variety of forms of representation
   - the underlying shapes and forms of objects
   - commercial potential of artwork
7. Reproduction Processes

VISUAL COMMUNICATIONS 32a (5 credits)

INTRODUCTION

Visual Communications 32a is designed to provide increased skill development in graphic design and processes in order to communicate ideas and information with accuracy and originality. The student may take Visual Communications 32a following Visual Communications 22a or Graphic Arts 22a.

OBJECTIVES

The objective of the Visual Communications 32a module is to enable the student to develop increased skill in the use of tools and techniques of illustration, photography and print making in order to communicate ideas and information with accuracy and originality.

CONTENT

1. Specialized Photoanimation
   - image creation
   - image conversion
   - reproduction processes
2. Serigraphy — Printing Processes
   - image creation
   - image conversion
   - reproduction processes
   - finishing
3. Planographic Printing Processes
   - reproduction
4. Specialized Photography
   - image creation
   - image conversion
   - reproduction
5. Layout and Design
   - image creation
6. Colour Theory

VISUAL COMMUNICATIONS 32b (5 credits)
(Visual Media)

INTRODUCTION

The Visual Communications 32b module is designed to provide the student with a basic understanding of the journalism process. This module may be taken any time after completion of the Visual Communications 22a module.

OBJECTIVES

The objectives of the Visual Communications 32b module are:

1. to provide the student with information about the diversity of occupations in the newspaper and publications career fields of visual communications
2. to explore the difference between newspapers and magazines
3. to explore the area of photojournalism in relation to principles of design, equipment and techniques.

CONTENT

1. Journalism Process
   - introduction: career information, newspapers and magazines, future trends
   - lithography: newspaper style, writing skills, gathering the news, the story
   - cartooning
   - advertising graphics
   - layout and composition
   - telecommunications and word processing
2. Journalism Process — Image Creation
   - Photography I
   - photoillustration
3. Journalism Process — Image Conversion
   - Graphics II — conversion processes: line photography, screened photography
   - Photography II — conversion processes: prints, colour separation
4. Journalism Process — Reproduction
   - Graphics II — planographic process
5. Journalism Process — Finishing
   - Graphics II — the finishing procedures

VISUAL COMMUNICATIONS 32c (5, 10 credits)

INTRODUCTION

This last module in the visual communications major is open to students who have completed 30 credits or six modules in the major.

CONTENT

The instruction time available in this module may be used:

1. to provide greater depth to a module taken previously. Individual students, groups of students or whole classes may elect to study an area in more detail
2. to allow the student to engage in actual work in the visual communications career field, supervised by the visual communications teacher, and by a craftsman on the job.

BASIC LEARNING RESOURCES

Bailey, A. *Colour Photography*. Random House, 1984.

ISBN 0394724674

Beidermann, Jack. *Photo Explorations*. Rochester, NY: Eastman Kodak, 1978.

ISBN 0879852135

Bockus, H. William. *Advertising Graphics*. Third edition. New York, NY: Macmillan, 1979.

ISBN 0023114908

Broekhuizen, Richard J. *Graphic Communications*. Second edition. Bloomington, IL: McKnight Publishing Comp., 1979.

ISBN 0026722208

Cogoli, John E. *Photo-Offset*. Fifth edition. Don Mills, ON: Collier Macmillan Canada, Inc., 1986.

ISBN 0026755904

The Design of Advertising. Fourth edition. 1985.

Eastman Kodak. *Kodak Data Guide for Colour Photography*. Seventh edition. 1982.

Jensen, C. *Architectural Drawing and Design for Residential Construction*. Scarborough, ON: McGraw-Hill Ryerson Limited, 1982.

ISBN 0075480603

Stirling, N. *Fundamentals of Technical Drawing*. Agincourt, ON: Gage Educational Publishing Company, 1984.

ISBN 077150327X

The courses in this section will be revised over the next few years. Information regarding basic learning resources may not be complete or current. Consult your Learning Resources Distributing Centre's *Buyers Guide* for current information.

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GRAPHIC ARTS
22-32 SERIES

GRAPHIC ARTS 22a (5 credits)
(Image Creation and Composition)

INTRODUCTION

Graphic Arts 22a follows naturally from Drafting 20, Drafting 22, Industrial Education 10 or Visual Communications 12 and provides the basis for later work in graphic arts.

OBJECTIVES

The objectives of the Graphic Arts 22a module are:

1. to provide a vehicle whereby skills and competencies are gained in areas of image creation
2. to provide the student with opportunities to work with a variety of composition processes.

CONTENT

1. Introduction
   - history and evolution of printing
   - safe operation of tools and equipment
   - career orientation
2. Image Creation
   - layout and design
     - advertising layout
     - newspaper layout
     - magazine layout
     - art services
   - image assembly
     - pasteup
     - keyboard composition
     - ruling/scribing
   - typesetting
     - mechanical
     - photokeyboard
   - typography
   - imposition
   - basic keyboarding

GRAPHIC ARTS 22b (5 credits)
(Basic and Advanced Offset Press Operation)

INTRODUCTION

Graphic Arts 22b follows naturally from Graphic Arts 22a.

OBJECTIVES

The objectives of the Graphic Arts 22b module are:

1. to provide the student with the opportunity to gain saleable skills in the operation of various offset printing presses
2. to teach the student proper handling and safe operation of potentially dangerous equipment
3. to give the student the opportunity to understand and practise basic maintenance.

CONTENT

1. History
2. Safety
3. Maintenance
4. Inks and Their Properties

GRAPHIC ARTS 22c (5 credits)

INTRODUCTION

The Graphic Arts 22c module will give the student the opportunity to learn about different types of cameras, properties and development of light-sensitive materials and basic procedures in the operation of an enlarger. Emphasis will be placed on the quality of the finished print. Students may advance to this module from Graphic Arts 22b.

OBJECTIVES

The objectives of the Graphic Arts 22c module are:

1. to teach the student the correct use and operation of photographic equipment and materials
2. to help the student learn the fundamentals of good composition
3. to help the student develop the ability to present prints for display.

CONTENT

1. Safety
2. Photography (black and white — basic)
3. Photography (black and white — advanced)
4. Colour Photography

GRAPHIC ARTS 32a (5 credits)
(Process, Camera, Stripping and Platemaking)

INTRODUCTION

Graphic Arts 32a is designed to increase skill in the use of the process camera, and to improve techniques in stripping and platemaking. Graphic Arts 32a should be taken after completing a course at the 22-level. Students may advance to this module from Graphic Arts 22c.

OBJECTIVES

The objectives of the Graphic Arts 32a module are:

1. to provide the student with the opportunity to learn advanced skills and techniques in the use of the process camera, stripping and platemaking
2. to develop a high degree of skill and accuracy in the use of the process camera, stripping and platemaking.

CONTENT

1. Process Camera
   - line copy
   - screened copy
   - photomechanical technique
   - duotones
   - stripping/masking
   - platemaking
   - colour separation

GRAPHIC ARTS 32b (5 credits)
(Basic Bindery Operations and Finishing)

INTRODUCTION

Bindery operation and finishing are fundamental aspects of all graphic arts courses. In Graphic Arts 32b the operation of various pieces of sophisticated equipment should be taught, realizing that all graphic arts shops have a limited scope of automated bindery equipment. Students may advance to this module from Graphic Arts 32a.

OBJECTIVES

The objectives of the Graphic Arts 32b module are:

1. to give the student saleable entry skills in the bindery field
2. to teach the student safe and proper handling of all equipment
3. to give the student the opportunity to learn about the diverse career choices possible in the bindery and printing field.

CONTENT

1. History
2. Safety
3. Papers
4. Bindery Operations
5. Packaging
6. Related Operations
7. Maintenance
8. Careers

GRAPHIC ARTS 32c (5, 10 credits)

INTRODUCTION

This last module in the graphic arts major is open to students who have completed 30 credits or six modules in the major.

CONTENT

The instruction time available in this module may be used:

1. to provide greater depth to a module taken previously. Individual students, groups of students or whole classes may elect to study an area in more detail. This in-depth study could be image creation and composition, offset press operation, photography or any of the modules named in the graphic arts sequence
2. to engage in actual graphic arts work or work study supervised by the graphic arts teacher, as a coordinator, and a journeyman on the job.

BASIC LEARNING RESOURCES

Biedermann, Jack. *Photo Explorations*. Rochester, NY: Eastman Kodak, 1978.

ISBN 0879852135

Broekhuizen, Richard J. *Graphic Communications*. Second edition. Bloomington, IL: McKnight Publishing Comp., 1979.

ISBN 0026722208

Cogoli, John E. *Photo-Offset Fundamental*. Fifth edition. Don Mills, ON: Collier Macmillian Canada, Inc., 1986.

ISBN 0026755904

French, Urbanek and Helsel Svenson. *Mechanical Drawing*. SI metric. McGraw-Hill Ryerson.

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INDUSTRIAL EDUCATION
12-22-32 SERIES
CAREER FIELD
HORTICULTURE

CONTENTS

Horticulture 12
Horticulture 22a
Horticulture 22b
Horticulture 22c
Horticulture 32a
Horticulture 32b
Horticulture 32c

HORTICULTURE
12-22-32 SERIES

HORTICULTURE 12 (5 credits)

INTRODUCTION

Horticulture 12 is an introductory course in the culture of indoor plants, commercial greenhouse plants and woody ornamentals. It involves the maintenance and planning of various landscapes, as well as disease and pest control, using equipment and tools. Identification of common varieties of ornamental plants is included throughout the course.

OBJECTIVES

The objectives of the Horticulture 12 course are:

1. to give the student an understanding of the broad scope in vocational horticulture

2. to introduce the student to safe and acceptable methods of plant production

3. to develop horticulture skills with the use of equipment, tools and other resources.

CONTENT

1. Landscaping
2. Indoor Plants
3. Soils and Fertilizers
4. Food Production
5. Botany and Biology
6. Greenhouses
7. Pruning
8. Floral Design

HORTICULTURE 22a (5 credits)

INTRODUCTION

Horticulture 22a expands on the greenhouse production area of horticulture, including food production, ornamental plant materials and the internal structures operating in a greenhouse. Also included are safety practices involved in greenhouse work and soil analysis. A practical project is part of this module. Students may advance to this module from Horticulture 12.

OBJECTIVES

The objectives of the Horticulture 22a module are:

1. to expand the scope of greenhouse production
2. to encourage the student to be analytical in the application of various techniques in greenhouse production
3. to complete an individual project relating to horticulture.

CONTENT

1. Food and Ornamental Plants
   - identification
   - propagation
   - maintenance, planting, cultural requirements
2. Greenhouse
3. Greenhouse Systems Operations
4. Safety
5. Soils in a Greenhouse
   - analysis; pH structure
   - diagnosis
   - remedy application
6. Practical Project

HORTICULTURE 22b (5 credits)

INTRODUCTION

Horticulture 22b develops skills in constructing and maintaining landscapes. The content deals with lawn care, tree care, soils, pest control and horticultural tools and equipment used in grounds maintenance. Students may advance to this module from either Horticulture 12 or Horticulture 22a.

OBJECTIVES

The objectives of the Horticulture 22b module are:

1. to give the student practical experience with tools and equipment commonly used in landscaping
2. to develop skills and give experience in working with ornamental plants in the landscape
3. to identify woody ornamentals and various landscape plant materials.

CONTENT

1. Introduction to Ground Maintenance
2. Scheduling and Planning Ground Care Activities
3. Site Preparation
   - grading, soil improvement
   - soil fertility, soil structure
   - choosing suitable plant material
4. Planting Trees, Shrubs, Lawns, Annuals and Perennials
   - identification and selection
   - planting and transplanting
   - propagation of desired species
5. General Maintenance of Landscaped Areas
6. Operation of Equipment and Use of Tools
7. Landscape Construction and Maintenance Specifications

HORTICULTURE 22c (5 credits)

INTRODUCTION

The historical aspects of design are integrated into the Horticulture 22c module and deal with the layout and planning of both residential and commercial horticulture areas. Landscape drafting, floral design and merchandising of floral crops is also a component of this module in order to develop artistic skills for the student. Students may advance to this module from either Horticulture 12, Horticulture 22a or Horticulture 22b.

OBJECTIVES

The objectives of the Horticulture 22c module are:

1. to give the student practical skills in drafting, analyzing and selecting appropriate landscape plans

2. to give the student skills in construction and handling of various floral designs and media

3. to encourage the interested student to pursue and develop any artistic ability he or she may demonstrate.

CONTENT

1. A History of Park and Garden Development
2. Objectives and Reasons for Landscaping
   - commercial sites
   - residential sites
3. Design Factors for Commercial and Residential Landscaping
4. Drawing Preparation for Landscape Planning
5. Preparation of a Landscape Plan
6. Cost Estimating
7. Using Annual and Perennial Flowers in a Landscape
8. Design and Use of Indoor Plants
9. Design Work Using Flowers and Plants

HORTICULTURE 32a (5 credits)

INTRODUCTION

Horticulture 32a deals with commercial crop and nursery production. The emphasis is on major horticultural greenhouse crops and on the production of woody ornamentals for, and in, a nursery. The student has a practical project to complete as well as extensive propagation and maintenance of plants. Students may advance to this module from either Horticulture 22a, Horticulture 22b or Horticulture 22c.

OBJECTIVES

The objectives of the Horticulture 32a module are:

1. to extend production of greenhouse procedures into commercial areas

2. to explore and propagate various woody ornamental crops

3. to complete an individual project

4. to give the student a cross section of the marketing and harvesting techniques of horticultural products.

CONTENT

1. Nursery Site Selection
   - soil
   - climate
   - precipitation
   - temperature
2. Identification of Woody Ornamentals
3. Propagation and Maintenance of Woody Ornamentals and Commercial Greenhouse Crops
   - sexual
   - asexual
   - pruning

HORTICULTURE 32a (5 credits) continued

4. Nursery Development
    - planning
    - systems
5. Marketing Procedures
    - distribution
    - product
    - advertising
6. Scheduling of Crops
    - requirements
    - selling dates
7. Greenhouse Cost Accounting
8. Practical Project

HORTICULTURE 32b (5 credits)

INTRODUCTION

The emphasis in Horticulture 32b is on the theoretical aspects of production in relation to biology, organic gardening, food crop production and the ecology of residential, public and commercial areas. Students may advance to this module from any of Horticulture 22a, Horticulture 22b, Horticulture 22c or Horticulture 32a.

OBJECTIVES

The objectives of the Horticulture 32b module are:

1. to relate the practical application of skills to the biological aspects of plant growth
2. to recognize the importance of the food industry in Alberta
3. to stimulate the awareness of the ecological aspects of horticulture.

CONTENT

1. Biological Aspects of Horticulture
    - plant taxonomy
    - plant structure
    - plant processes
    - insects and plants
    - plant diseases
2. Horticultural Crops
3. Organic Gardening, Ecological Aspects
4. Ecological Aspects of Parks and Other Landscapes

HORTICULTURE 32c (5, 10 credits)

INTRODUCTION

The Horticulture 32c module is an intensive overview and expansion of the previous modules in horticulture with particular emphasis on landscape construction, pesticide application, equipment operation and business management. Students may advance to this module from Horticulture 32b only. Work study is the major component consisting of 125 hours, or 250 hours, of practical experience in a horticultural industry.

OBJECTIVES

The objectives of the Horticulture 32c module are:

1. to review basic horticultural concepts and extend areas of particular interest to the student
2. to provide an opportunity for the student to participate in an intensive work study program
3. to enable the student to practise skills before entering the work force.

BASIC LEARNING RESOURCES

Conover, Herbert S. *Grounds Maintenance Handbook.* Third edition. Toronto, ON: McGraw-Hill Ryerson, 1977.

ISBN 0070124124

Hamilton et al. *Horticulture for Profit and Pleasure.* J. M. Dent & Sons (Canada) Ltd., 1969.

Moon, Otto and Towle. *Modern Biology.* Canadian edition. HBJ-Holt-Saunders, 1982.

ISBN 0039201996

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INDUSTRIAL EDUCATION
12-22-32 SERIES
CAREER FIELD
MECHANICS

CONTENTS

Mechanics 12
Related Mechanics 22a
Related Mechanics 22b
Related Mechanics 22c
Related Mechanics 32a
Related Mechanics 32b
Related Mechanics 32c
Automotives 22a
Automotives 22b
Automotives 22c
Automotives 32a
Automotives 32b
Automotives 32c
Auto Body 12
Auto Body 22a
Auto Body 22b
Auto Body 22c
Auto Body 32a
Auto Body 32b
Auto Body 32c

MECHANICS 12

MECHANICS 12 (5 credits)

INTRODUCTION

Mechanics 12 is an introductory course for related mechanics leading to all the major areas in the career field of mechanics. The student is introduced to power sources and methods of transmission. The student studies the construction and operation of machines, particularly the motor vehicle, and engages in the activities of testing, disassembling and assembling of machines, reading, researching and applying information learned to analyzing and repairing minor machine problems.

OBJECTIVES

The specific objectives of the Mechanics 12 course are:

1. to enable the student to understand the use, care and control of the power machine

2. to allow the student to gain an insight into the construction and operation of machines that convert energy into useful work

3. to provide the student with realistic experiences so that he or she is better able to make a career choice based on accurate information

4. to help the student understand the many basic laws and principles of science at work in mechanics, and relate these laws and principles to the vast area of power technology.

CONTENT

1. Career Field Study
2. Safety
3. Shop Practices
    - hand tools
    - measuring instruments
    - fasteners
    - specialized equipment
    - repair manuals and specifications
4. Automobile Care and Ownership
5. Power Sources
    - types of engines
    - methods of piston engine classification
    - piston engine terms
    - engine construction and operation
6. Engine Support Systems
    - fuel system
    - exhaust system
    - cooling system
    - lubricating system
    - electrical system
7. Transmission of Power

BASIC LEARNING RESOURCES

Canadian Electrical Code, Part I, CSA. Sixteenth edition. 1990.

ISBN 0003175669

Clidero, Robert K. and Kenneth H. Sharpe. *Applications of Electrical Construction*. SI metric second edition. Don Mills, ON: General Publishing Co., 1979.

ISBN 0773650228

Crouse, William H. and Donald L. Anglin. *Automotive Mechanics*. Second Canadian edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1987.

ISBN 007548949X

Krar, S. F. and J. W. Oswald. *Machine Shop Training*. SI metric fourth edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1986.

ISBN 0075489511

Miller, H. G. *Building Construction: Materials and Methods*. Metric edition. Agincourt, ON: Gage Educational Publishing Company, 1980.

ISBN 077150599X

Pender, James A. *Welding*. SI metric third edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1986.

ISBN 0075489538

Thiessen, Frank J. and Davis N. Dales. *Automotive Principles and Service*. Second edition. Scarborough, ON: Prentice-Hall Canada Inc., 1984.

ISBN 0835903311

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RELATED MECHANICS 22-32 SERIES

RELATED MECHANICS 22a (5 credits)
(Power System)

INTRODUCTION

The Related Mechanics 22a module may be taken at any time following the completion of Mechanics 12.

OBJECTIVES

The objectives of the Related Mechanics 22a module are:

1. to develop in the student some of the attitudes and skills required of a motor mechanic
2. to familiarize the student with automotive engines, and thus relate his or her theoretical background to engine repair
3. to develop in the student the habits of critical thinking in the analysis of engine problems
4. to accustom the student to the use of manufacturers' manuals and a variety of technical publications
5. to provide the student with a basis for further study of power systems at a more advanced level.

CONTENT

1. The Internal Combustion Engine
   - construction and operation
2. The Maintenance and Repair of the Internal Combustion Engine
   - disassembly procedure
   - engine assembly
   - tune-up
   - sequence of operations
3. Engine Support Systems
   - cooling
   - lubricating

RELATED MECHANICS 22b (5 credits)
(Framing — Residential)

INTRODUCTION

This course is open to any student who has completed Industrial Education 10 or Related Mechanics 12.

OBJECTIVES

The objectives of the Related Mechanics 22b module are:

1. to give the student practical experience in house framing
2. to give the student a basic knowledge of various types of framing and layout procedures in accordance with the codes regulating construction
3. to give the student practical experience in material quantity and cost estimating.

CONTENT

1. Floor Support and Framing Systems
   - wood foundations
   - built-up beams, girders and columns
   - floor joist systems
   - bracing
   - floor sheathing
   - quantity and cost survey
2. Wall Framing
   - basic framing systems
   - platform framing
   - wall sheathing
   - quantity and cost survey
3. Ceiling and Roof Framing
   - ceiling framing
   - roof framing
   - cornice work
   - roof sheathing
   - special ceiling and roof framing systems

RELATED MECHANICS 22c (5 credits)
(Residential Wiring)

INTRODUCTION

Related Mechanics 22c introduces the student to basic residential wiring. The introductory course Industrial Education 10 or Mechanics 12 are prerequisite.

OBJECTIVES

The objectives of the Related Mechanics 22c module are:

1. to introduce the student to the concepts of electrical wiring in the home
2. to allow the student to develop skill in the use of tools, equipment and instruments particular to the electrical field
3. to familiarize the student with electrical codes and their application.

CONTENT

1. Career Opportunities
2. Safety
3. Residential Wiring Installations
   - planning
   - installation
   - re-wiring
4. Management Practices
   - organization
   - bidding for work
   - employee concerns

RELATED MECHANICS 32a (5 credits)
(Benchwork and Lathe Operations)

INTRODUCTION

Related Mechanics 32a is designed to provide the student with theory and practice in safety, machine maintenance, blueprint reading, layout and measurement, benchwork, machine tools, basic metallurgy and occupational information.

OBJECTIVES

The objectives of the Related Mechanics 32a module are:

1. to provide the student with basic machine shop orientation and safety instruction

2. to teach the student basic skills in machine lubrication and maintenance

3. to provide the student with an opportunity to perform practical operations using hand tools and machine tools

4. to give the student career and occupational information.

CONTENT

1. Safety Consciousness
   - unsafe acts and conditions
2. General Machine Shop Maintenance
   - machine lubrication
   - machine tool maintenance and repair
   - proper use and care of all tools and equipment
3. Blueprint Reading
   - object visualization and drawing interpretation
4. Layout and Measurement
   - measuring
   - layout
5. Benchwork
   - hand tools
6. Machine Tools
   - material removal by machining
7. Metallurgy
   - steel
8. Metalworking Occupations
   - career opportunities

RELATED MECHANICS 32b (5 credits)
(Introductory Welding)

INTRODUCTION

Related Mechanics 32b, introductory welding, provides the opportunity for the student to explore the subject of welding and develop introductory-level skills.

OBJECTIVES

The objectives of the Related Mechanics 32b module are:

1. to give the student an understanding of the role of the welder in industrial society

2. to introduce the student to the safe use of tools and acceptable procedures basic to the welding trade.

CONTENT

1. Introduction to Welding
2. Safety
3. Fusion Welding
   - oxyacetylene equipment
   - setting up new equipment
   - gas pressure and flame adjustments
   - shop practices
   - arc welding; basic process
4. Thermal Separation
5. Measurement, Tools and Shop Equipment
6. Braze Welding and Soldering
7. Fabrication and Repair

A developmental module, approved by the Assistant Director, Practical Arts, Curriculum Branch may replace any of the following modules: Related Mechanics 22a, 22b, 22c, 32a or 32b.

RELATED MECHANICS 32c (5, 10 credits)

CONTENT

Advanced study may be continued in any of the topics covered in the courses listed under related mechanics or on-the-job training under the supervision of the related mechanics teacher, and a journeyman on the job.

BASIC LEARNING RESOURCES

Canadian Electrical Code, Part I, CSA. Sixteenth edition. 1990.

ISBN 0003175669

Clidero, Robert K. and Kenneth H. Sharpe. *Applications of Electrical Construction*. SI metric second edition. Don Mills, ON: General Publishing Co., 1979.

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Thiessen, Frank J. and Davis N. Dales. *Automotive Principles and Service*. Second edition. Scarborough, ON: Prentice-Hall Canada Inc., 1984.

ISBN 0835903311

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AUTOMOTIVES
22-32 SERIES

AUTOMOTIVES 22a (5 credits)

INTRODUCTION

Automotives 22a may be selected after completion of Mechanics 12 or Industrial Education 10.

The control of an automobile is dependent on the running gear and all its components. This module of study provides an introduction to brakes, steering and suspension.

OBJECTIVES

The objectives of the Automotives 22a module are:

1. to expose the student, by direct involvement and reference book description, to those components of the automobile that are concerned with control characteristics such as steering, suspension and braking
2. to let the student employ measuring and correction tools, and manufacturers' recommendations and specifications to assist in the diagnosis and elimination of problems
3. to make the student constantly practise safety procedures while working with machines
4. to demand of the student absolute cleanliness in the maintenance of automobile parts, tools and facilities
5. to leave the student with a sense of achievement and pride that will motivate self-improvement in the skills of diagnosis and correction of problems in automobile maintenance.

CONTENT

1. Suspension
   - stability and control
   - wheel and tire assembly
   - steering gear
2. Steering Geometry
   - alignment
   - problem diagnosis
3. Brakes
   - types
   - power assist brakes
   - brake principle
   - maintenance and repair

AUTOMOTIVES 22b (5 credits)

INTRODUCTION

Automotives 22b may be selected after completion of Mechanics 12 or Industrial Education 10.

OBJECTIVES

The objectives of the Automotives 22b module are:

1. to develop in the student the attitudes and skills required of a motor mechanic
2. to familiarize the student with automotive power trains and thus relate theoretical background to that of repair
3. to develop in the student the habits of critical thinking in the analysis of power train problems
4. to acquaint the student with manufacturers' manuals and a variety of technical publications, and to acquire practice in their use
5. to provide the student with a basis for further study of power trains.

CONTENT

1. Power Train Components and Service
    - clutch
    - transmissions
    - drive lines and universal joints
    - rear axle assembly
    - principles of differential gear adjustments
    - disassembly, inspection and assembly of differential
    - trans axles
    - axles
    - independent rear suspension

AUTOMOTIVES 22c (5 credits)

INTRODUCTION

The Automotives 22c module may be taken at any time following completion of Mechanics 12 or Industrial Education 10.

OBJECTIVES

The objectives of the Automotives 22c module are:

1. to provide the student with experiences that will relate previously mastered theories to modern mechanical developments
2. to provide the student with experiences that will provide a basis for further research in the development of automotive electrical systems
3. to provide the student with experiences that can be related to other mechanical and electrical fields.

CONTENT

1. Electricity and Magnetism
    - control of electrical power
2. Sources of Electrical Energy: Battery
3. Sources of Electrical Energy: Generator/Alternator
    - component identification
4. Application of Electricity to the Automobile
    - starting system
    - ignition system
5. Oxyacetylene Heating and Cutting

AUTOMOTIVES 32a (5 credits)

INTRODUCTION

Automotives 32a may be selected at any time after the student has completed Automotives 22a. The module introduces the student to fuels, test equipment, and the techniques used in tuning an engine.

OBJECTIVES

The objectives of the Automotives 32a module are:

1. to provide the student with a basis for further study into fuel and tune-up
2. to demand of the student absolute cleanliness in the maintenance of automobile parts, tools and facilities
3. to leave the student with a sense of achievement and pride that will motivate self-improvement in the skills of diagnosis and correction of problems in automobile maintenance.

CONTENT

1. Fuel System
   - types of fuels
   - fuel system components
2. Tune-up
   - test equipment
   - operational sequence for tune-up
   - checking other systems of the automobile that relate to tune-up
3. Exhaust and Emission Control Systems

AUTOMOTIVES 32b (5 credits)

INTRODUCTION

The Automotives 32b module may be taken at any time following the completion of Automotives 22a only.

OBJECTIVES

The objectives of the Automotives 32b module are:

1. to develop in the student some of the attitudes and skills required of a motor mechanic
2. to familiarize the student with automotive engines and thus relate his or her theoretical background to engine repair
3. to develop in the student the habits of critical thinking in the analysis of engine problems
4. to accustom the student to the use of manufacturers' manuals and a variety of technical publications
5. to provide the student with a basis for further study into power systems at a more advanced level.

CONTENT

1. The Internal Combustion Engine
   - construction and operation
2. The Maintenance and Repair of the Internal Combustion Engine
   - disassembly procedure
   - engine assembly
   - tune-up
   - sequence of operations
3. Engine Support Systems
   - cooling
   - lubrication

AUTOMOTIVES 32c (5, 10 credits)

INTRODUCTION

This last module in the automotives major is open to students who have completed 30 credits or six modules in the major.

CONTENT

The instruction time available in this module may be used:

1. to provide greater depth to a module taken previously. Individual students, groups of students or whole classes may elect to study an area in more detail to develop more skills. This in-depth study could be in power systems, tune-up, or any of the modules named in the automotives sequence
2. to engage in actual garage work through a program coordinated, by the automotives teacher, and under a journeyman mechanic on the job.

BASIC LEARNING RESOURCES

Crouse, William H. and Donald L. Anglin. *Automotive Mechanics.* Second Canadian edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1987.

ISBN 007548949X

Thiessen, Frank J. and Davis N. Dales. *Automotive Principles and Service.* Second edition. Scarborough, ON: Prentice-Hall Canada, Inc., 1984.

ISBN 0835903311

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AUTO BODY
12-22-32 SERIES

AUTO BODY 12 (5 credits)

INTRODUCTION

Auto Body 12 introduces the student to the auto body trade. It is a general course giving an overview of the total area with minimal time for skill development.

OBJECTIVES

The objectives of the Auto Body 12 course are:

1. to give the student an understanding of the auto body trade and related occupations

2. to introduce the student to the safe use of tools and acceptable procedures basic to the trade.

CONTENT

1. Career Field Occupations
   - employment opportunities
2. Introduction to Auto Body
   - body components
   - tools and equipment
   - interior and exterior car care
3. Safety
4. Shop Operation
   - procedures, clean-up
5. Oxyacetylene Welding
   - equipment and procedures
6. Metal Finishing
   - tools, materials and processes
7. Painting
   - surface preparation
   - paint application

AUTO BODY 22a (5 credits)

INTRODUCTION

This course is open to any student who has completed Auto Body 12, Industrial Education 10 or Mechanics 12. Students will have an opportunity to use the tools and materials of the trade and begin developing an idea of the skill standards required.

OBJECTIVES

The objectives of the Auto Body 22a module are:

1. to give the student an opportunity to learn trade terminology
2. to give the student an opportunity to learn the applications of various tools and skill in their use.

CONTENT

1. Shop Operation
   - trade terminology
   - tools
   - shop design
2. Auto Body Welding
   - metals
3. Metal Finishing
   - specialized treatment
   - use of heat
   - filling metal
   - painting
4. Trim and Hardware
   - interior trim
   - hinges

AUTO BODY 22b (5 credits)

INTRODUCTION

Students may register in Auto Body 22b following completion of Auto Body 22a.

OBJECTIVES

The objectives of the Auto Body 22b module are:

1. to give the student an opportunity to develop skills in shaping auto body parts
2. to give the student an opportunity to develop and practise skills in auto body welding.

CONTENT

1. Auto Body Construction
   - body component shaping
   - assembly
2. Alignment Theory and Application
   - methods of alignment
3. Auto Body Welding
   - oxyacetylene welding
   - joints
4. Door Repair

AUTO BODY 22c (5 credits)

INTRODUCTION

Students must have completed Auto Body 22b before registering in this course.

OBJECTIVES

The objectives of the Auto Body 22c module are:

1. to give the student an opportunity to learn about the management component of a business
2. to give the student practice in the repair function of the auto body trade.

CONTENT

1. Management in the Auto Body Trade
2. Automotive Plastics
    - identification and repair
3. Bumper Repair
4. Skill Development for Vehicle Repair
    - aligning
    - welding
    - finishing
    - filling
    - painting

AUTO BODY 32a (5 credits)

INTRODUCTION

Auto Body 32a introduces the student to estimating the cost of repairs and further develops his or her skills in finishing and painting. Students may advance to this module from Auto Body 22c.

OBJECTIVES

The objectives of the Auto Body 32a module are:

1. to give the student an opportunity to learn how to estimate the cost of repair work
2. to give time for practice to develop skills.

CONTENT

1. Estimating Auto Body Damage
2. Painting Equipment and the Spray Booth
3. Auto Body Alignment
    - shaping and aligning components; doors, trunk lid, decks, glass
4. Metal Finishing
    - picking and filling
    - filling; metal and plastic
    - abrasives
5. Live Repairs

AUTO BODY 32b (5 credits)

INTRODUCTION

Auto Body 32b expands on previously learned skills and introduces auxiliary systems such as electrical wiring. Students may advance to this module from Auto Body 32a.

OBJECTIVES

The objective of the Auto Body 32b module is to give the student an opportunity to enhance his or her skills through practise by doing a job from estimating to counting up the final bill.

CONTENT

1. Auto Body Electrical
   - circuits
   - headlight aiming
2. Painting
3. Frames and Alignment
   - frame straighteners
   - wheel alignment
4. Welding
   - braze welding
   - MIG welding
5. Interior Repair
   - glass installation
   - care and cleaning

AUTO BODY 32c (5, 10 credits)

INTRODUCTION

This last module in the auto body major is open to students who have completed 30 credits or six modules in the major.

CONTENT

The 125 or 250 hours of time available in this module may be used:

1. to provide more time to practise skills in content taken previously. Individual students, groups of students or the whole class may elect to study an area in depth. This could be the use of plastics in automotives, aligning, painting or any of the content areas covered in the auto body sequence
2. to engage in actual construction work supervised by the auto body teacher or work study coordinator and a journeyman on the job
3. to further preparation for students planning to enter apprenticeship.

BASIC LEARNING RESOURCES

Hogg, J. W. *Auto Body Repair and Refinishing*. SI metric third edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1988.

ISBN 0075488698

Deroche, A. G. and N. N. Hildebrand. *The Principles of Auto Body Repairing and Repainting*. Third edition. Scarborough, ON: Prentice-Hall Canada Inc., 1981.

ISBN 0137056656

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INDUSTRIAL EDUCATION
12-22-32 SERIES
CAREER FIELD
PERSONAL SERVICES

CONTENTS

Beauty Culture 12
Beauty Culture 22a
Beauty Culture 22b
Beauty Culture 22c
Beauty Culture 32a
Beauty Culture 32b
Beauty Culture 32c
Beauty Culture 32d
Food Preparation 12
Food Preparation 22a
Food Preparation 22b
Food Preparation 22c
Food Preparation 32a
Food Preparation 32b
Food Preparation 32c
Food Preparation 32d
Health Services 12
Health Services 22
Health Services 32a
Health Services 32b

BEAUTY CULTURE 12-22-32 SERIES

BEAUTY CULTURE 12 (5 credits)

INTRODUCTION

For a beautician, the new accreditation arrangements are:

1. All students graduating with 55 credits must find an employer willing to indenture them as an apprentice. The application for apprenticeship will result in a student receiving notice to appear for the theory examination, and being informed they need to serve two 700-hour periods of work experience before attempting the practical examination. When all requirements are met, the student will receive a Completion of Apprenticeship Certificate and a Journeyman Certificate.

2. High school (vocational) students with less than 55 credits, but more than 700 hours of instruction from an approved school, will be required to find an employer and indenture as an apprentice. Upon presentation of documented proof of the above, the student may receive technical credit for the first apprenticeship period. On the employer's recommendation, the student may attempt the first period examination. With an employer's recommendation, an apprentice may also be granted work experience credit for the first period of apprenticeship, up to the maximum hours of time spent in school instruction. N te that **applicants in this category may not attempt second period examinations**. Apprentices must attend second period apprenticeship training and complete 1400 hours of work experience. Following this, apprentices may challenge the theory and practical examinations and, if successful, will receive a Completion of Apprenticeship Certificate and a Journeyman Certificate.

3. Students receiving less than 700 hours of instruction from an approved school must take both periods of apprenticeship technical training. However, with an employer's recommendation, an apprentice may be granted work experience for the first period up to the maximum hours of time spent in school instruction.

A person who presents fewer than 35 credits in one of the articulated vocational programs may expect to be considered for less apprenticeship credit, on the basis of individual performance, upon undertaking the apprenticeship.

Note: Vocational high school credits acceptable for articulation with apprenticeship programs may be altered from time to time, due to changes in programming recommended by provincial advisory committees.

BEAUTY CULTURE 12 (5 credits) continued

Modules 22a through 32d must be taken in sequence. Entry to Module 22a is through the Beauty Culture 12 course.

OBJECTIVES

The objectives of the Beauty Culture 12 course are:

1. to familiarize the student with the career field, the care and maintenance of equipment, safety, hygiene, cosmetology, basic hairstyling and personal development
2. to provide an opportunity for the student to gain experience in dealing with the public, co-workers and management
3. to provide an opportunity for the student to develop skills and knowledge in beauty culture.

CONTENT

1. Career Field Study
2. Ethics
   - behaviour
   - character development
3. Equipment and Implementation
4. Hairstyling
   - hair setting
   - hair dressing
5. Physiology
6. Hygiene and Sanitation (1)
7. Cosmetic Chemistry (1)
8. Skin Care and Make up
9. Manicure (optional)

BEAUTY CULTURE 22a (5 credits)

INTRODUCTION

Students may advance to Beauty Culture 22a from Beauty Culture 12.

OBJECTIVES

The objective of the Beauty Culture 22a module is to provide the student with basic knowledge in hairstyling, hair colouring, hair and scalp treatment, cosmetology, facials and the histology of skin.

CONTENT

1. Hairstyling
2. Hygiene and Sanitation (2)
3. Hair and Scalp Treatment
4. Hair Colouring — rinses
5. The Skin
6. Facials
7. Cosmetic Chemistry (2)

BEAUTY CULTURE 22b (5 credits)

INTRODUCTION

Students may advance to Beauty Culture 22b from Beauty Culture 22a.

OBJECTIVES

The objectives of the Beauty Culture 22b module are:

1. to introduce the student to diseases and disorders of hair, skin and scalp
2. to familiarize the student with physiology and anatomy
3. to familiarize the student with the processes of permanent waving
4. to familiarize the student with basic hair cutting.

BEAUTY CULTURE 22b (5 credits) continued

CONTENT

1. Haircutting
2. Permanent Waving
   - cold wave
   - heat wave
   - chemical disposal
3. Anatomy, Physiology, Histology
   - metabolism
   - the skin and its appendages
4. Disorders and Diseases of the Skin and Its Appendages

BEAUTY CULTURE 22c (5 credits)

INTRODUCTION

The content of Beauty Culture 22c provides a review of previous theory and introduces customer service.

OBJECTIVES

The objective of the Beauty Culture 22c module is to develop practical skills necessary for customer services through expansion of previous knowledge gained.

CONTENT

1. Receptionist Training
   - reception
2. Customer Service
   - public relations
3. Hairstyling
   - advanced styling
4. Hair Colouring — Semi-permanent and Permanent
   - colour theory
   - predisposition
   - mixing and application
   - chemical storage and disposal

BEAUTY CULTURE 32a (5 credits)

INTRODUCTION

This senior level module continues the development of skills in hairstyling and in introducing the theory and practice of colour removal. An understanding of chemical principles and practice as related to cosmetology is developed.

OBJECTIVES

The objectives of the Beauty Culture 32a module are:

1. to develop the knowledge and skills in fashion trend hairstyling (designing, cutting, setting and dressing)
2. to provide the student with the knowledge and skills to practise colour removal through the use of bleaches and colour strippers
3. to relate chemistry and the safe storage and disposal of chemicals to the cosmetology industry so as to assist in product knowledge and product content
4. to develop competency and speed in customer service operations.

BEAUTY CULTURE 32a (5 credits) continued

CONTENT

1. Hairstyling — Fashion Trends
2. Colour Removal
   - bleaching
   - stripping
3. Chemistry of Cosmetology (3)
4. Customer Service

BEAUTY CULTURE 32b (5 credits)

INTRODUCTION

This module provides the opportunity to develop the technical and creative abilities of the student. Individualized service in the areas of styling, high fashion colouring and hair straightening are emphasized.

OBJECTIVES

The objectives of the Beauty Culture 32b module are:

1. to develop appropriate procedures for the selection and implementation of individualized hair fashion

2. to develop knowledge and skills in the use of creative hair colouring techniques

3. to use chemical and physical processes for the removal of curl from the hair

4. to develop competency, speed and salesmanship in customer service operations.

CONTENT

1. Hairstyling — Individualized Trend
   - facial analysis and other characteristics
   - implementations
   - day, cocktail, evening transformations
2. Hair Colouring — High Fashion Techniques
   - creative hair colouring
   - hair colour cosmetics
   - implementation of techniques
3. Hair Straightening
   - the chemical process
   - the physical process
4. Customer Service
   - competency
   - speed
   - salesmanship

BEAUTY CULTURE 32c (5, 10 credits)

INTRODUCTION

The Beauty Culture 32c module may be offered for 5 or 10 credits. It is designed to provide students with advanced levels of knowledge and skills, and provide training in ancillary beauty culture service. A work study component may be used in this module.

OBJECTIVES

The objectives of the Beauty Culture 32c module are:

1. to provide the student with the knowledge and skills necessary to implement and practise esthetology services

2. to provide the student with the knowledge and skills necessary to clean, set and dress hair goods

BEAUTY CULTURE 32c (5, 10 credits) continued

3. to provide the student with an opportunity to participate in competition hairdressing

4. to provide the student with further development of the knowledge and skills necessary for hair colouring services

5. to provide the student with the opportunity to further the development of skills related to customer service operations.

Option: To provide the student with the opportunity to participate in a work study program.

CONTENT

1. Esthetology
   - esthetics
   - equipment and tools
2. Wigs and Hairpieces — Hair Goods
   - types of hair and fibres
   - servicing wigs and hairpieces
3. Competition Hairdressing
   - judging
4. Advanced Hair Colouring
   - creative mixing of colouring products
   - safety
5. Customer Service/Work Study

BEAUTY CULTURE 32d (5, 10 or 15 credits)

INTRODUCTION

The Beauty Culture 32d module may be offered for 5, 10 or 15 credits. It is designed to improve the student's levels of competency and provide an understanding of business management and organization in the beauty culture industry.

A work experience component may be used in this module.

OBJECTIVES

The objectives of the Beauty Culture 32d module are:

1. to provide the student with advanced levels of customer services

2. to provide the student with knowledge and skills related to the art of salesmanship

3. to provide the student with an understanding of the principles of merchandising

4. to provide the student with individualized techniques for the permanent waving of hair

5. to provide the student with knowledge of professional ethics and responsibilities

6. to provide the student with an overview of the principles and practices of shop management

7. to provide the student with an in-depth review of all theory and practices related to the beauty culture program.

Option: To provide the student with the opportunity to participate in a work experience program. A maximum of 5 credits (125 hours) may be allocated to a supervised program.

CONTENT

1. Customer Service
   - competency/speed
2. Salesmanship
3. Merchandising
   - product knowledge
   - promotional activities
4. Advanced Permanent Waving
   - review of chemicals
   - design permanent waving
5. Professional Ethics
   - definition of terms
6. Shop Management
   - overhead
   - personnel
   - bookkeeping
   - labour relations
7. Review of Curriculum
   - reinforcement
   - work experience

BASIC LEARNING RESOURCES

Dalton, John W. *The Professional Cosmetologist.* Third edition. St. Paul, MN: West Publishing Company, 1985.

ISBN 0314778780

Powitt, A. H. *Hair Structure and Chemistry Simplified.* Revised edition. White Plains, NY: Milady Publishing Corp, 1977.

ISBN S0667

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FOOD PREPARATION 12-22-32 SERIES

FOOD PREPARATION 12 (5 credits)

INTRODUCTION

Food Preparation 12 is an introductory course about food and the food preparation industry. The student should spend 75% of his or her time in practical work, such as preparing food and acquiring skill with kitchen tools and equipment. The student will learn about the food industry, nutrition, sanitation and safety.

OBJECTIVES

The objectives of the Food Preparation 12 course are:

1. to assist the student to become aware of the broad range of career opportunities related to the foods field

2. to familiarize the student with the tools, equipment and materials related to commercial food operations

3. to assist the student in understanding the importance of nutrition.

CONTENT

1. Opportunities in the Food Service Industry
2. Utensils and Cooking Equipment
3. Tools and Processes Used to Serve and Portion Foods
4. Tool Processes Used to Cut, Form and Mix Foods for Cooking
5. Safety in the Kitchen
6. Storage of Food
7. Cleaning and Sanitation
8. Measuring and Planning
9. Basic Nutrition and Menu Planning
10. Practical Cooking

FOOD PREPARATION 22a (5 credits)

INTRODUCTION

Food Preparation 22a introduces students to food preparation on a commercial scale. The emphasis will be on the preparation of vegetables, stocks, soups, simple sauces and meat dishes. Entry into this module can be from either Food Preparation 12, or from Industrial Education 10, of which food preparation constituted 65 hours of instruction.

OBJECTIVES

The objectives of the Food Preparation 22a module are:

1. to introduce the student to the principles and practices of preparing foods on a commercial scale
2. to provide the student with practice in production techniques and the development of food preparation skills.

CONTENT

1. Vegetable Cookery
   - classification
   - standards
   - cooking techniques
2. Stocks
3. Soups
   - standards
   - classification
   - garnishes
4. Sauces
5. Gravies
6. Meats

FOOD PREPARATION 22b (5 credits)
(Cold Kitchen Production)

INTRODUCTION

Food Preparation 22b gives the student practice in the preparation of food on a commercial scale. Emphasis is placed on desserts, sandwiches, salads, garnishes and appetizers. Artistic skills are practised in displaying cold buffets and in the preparation and merchandising of salads, sandwiches and appropriate desserts. Students may advance to this module from Food Preparation 22a.

OBJECTIVES

The objectives of the Food Preparation 22b module are:

1. to introduce the student to the principles, practices, tools and equipment related to cold kitchen and dessert production
2. to allow the students the opportunity to practise the methods and organization of cold kitchen and dessert production.

CONTENT

1. Cold Kitchen Production
   - sandwiches
   - pantry
2. Salads
3. Appetizers
4. Desserts and Short Pastry Products

FOOD PREPARATION 22c (5 credits)
(Short-order Cooking)

INTRODUCTION

Food Preparation 22c on short-order cooking gives the student the opportunity to practise the skills and use the knowledge essential to the proficient short-order cook.

It is assumed that the student has already developed some skills and this experience can be put to direct use. Students may advance to this module from Food Preparation 22b.

OBJECTIVES

The objectives of the Food Preparation 22c module are:

1. to allow the student to practise short-order cooking
2. to provide information to the student on the practices and principles associated with short-order cooking.

CONTENT

1. Short-order Cooking
2. Dairy Products
3. Fats and Oils
4. Cereals and Breakfast Foods
5. Serving Food

FOOD PREPARATION 32a (5 credits)
(Kitchen Production)

INTRODUCTION

Food Preparation 32a on kitchen production is a continuation of work begun in Food Preparation 22a and is open to any student who has credit for the same. Emphasis is placed on gaining more in-depth knowledge of the structure and cooking of meat and on preparing a variety of soups, salads and vegetable dishes. Entry into this module requires completion of the modules Food Preparation 22a, Food Preparation 22b and Food Preparation 22c.

OBJECTIVES

The objectives of the Food Preparation 32a module are:

1. to familiarize the student with the structure and composition of meat
2. to allow the student to practise cutting meat
3. to provide the student with the opportunity to practise meat cookery
4. to provide the student with the opportunity to prepare a wide range of soups, sauces and vegetable dishes.

CONTENT

1. Meat
   - proper cooking
   - fibre structure
   - fat and moisture content
   - connective tissue
   - consumption
2. Fish
   - high food value
   - versatility
3. Poultry
   - methods of cooking
   - kinds of meat
   - dressing
4. Sauces, Soups, Salads and Vegetable Dishes
5. Behaviour
   - service to the public

FOOD PREPARATION 32b (5 credits)
(Baking and Decorating)

INTRODUCTION

Food Preparation 32b covers the preparation and decoration of cakes, cookies, pastries, yeast goods and desserts. Students may advance to this module following completion of Food Preparation 32a.

OBJECTIVES

The objectives of the Food Preparation 32b module are:

1. to introduce the student to the principles and practices underlying the quality production of cakes, pastries and yeast goods
2. to provide the student with practice in baking
3. to allow the student to develop some basic cake decorating skills.

CONTENT

1. Baking Ingredients
   - the properties that they exhibit under various conditions
2. Cakes, Pastries and Yeast Doughs
3. Decorating and Filling Cakes, Yeast Goods and Pastries
4. Desserts
   - selection
   - suitability
   - preparation

FOOD PREPARATION 32c (5, 10 credits)
(Kitchen Management)

INTRODUCTION

Food service management, like other management situations, consists of carrying out the functions of an establishment to satisfy the needs of the consumer and earn a profit for the investor. In Food Preparation 32c the student will study sanitation, food processing, nutrition, purchasing and the storing and control of kitchen inventory. Entry into this module requires completion of Food Preparation 32a and Food Preparation 32b.

The module may be taught for 5 or 10 credits, allowing time for the student to gain some experience in industry under the work study plan.

OBJECTIVES

The objectives of the Food Preparation 32c module are:

1. to give the student the opportunity to learn the tasks, techniques and skills required by the manager or chef of a kitchen, or the owner of a small food establishment
2. to allow the student to learn basic management skills and techniques applicable to many situations.

CONTENT

1. Managing the Kitchen
2. Nutrition
3. Purchase, Storage and Control of Kitchen Supplies
4. Planning Work Activity
5. Cost Control and Menu Pricing
6. Serving of Food
7. Preparation for Employment

FOOD PREPARATION 32d (5 credits)
(Open Module)

INTRODUCTION

The final module in the food preparation major is open to the student who has completed all of the preceding modules.

CONTENT

The 125 hours of instruction time available in this module may be used:

1. to provide greater depth to a module taken previously in the sequence. Individual students, groups of students or the whole class may elect to study an area in depth
2. to engage in actual on-the-job, food service work supervised by the food preparation teacher, and an on-the-job chef.

260

BASIC LEARNING RESOURCES

Haines, Robert S. *Food Preparation for Hotels, Restaurants, and Cafeterias*. Second edition. Alsip, IL: American Technical Publishers, Inc., 1973.

ISBN 0826944221

Morgan, William J. *Supervision and Management of Quantity Food Preparation: Principles and Procedures*. Second edition. Berkeley, CA: McCutchan Publishing, 1981.

ISBN 0821112546

Pauli, Eugen. *Classical Cooking the Modern Way*. Second edition. New York, NY: Van Nostrand Reinhold, 1989.

ISBN 0442272065

The courses in this section will be revised over the next few years. Information regarding basic learning resources may not be complete or current. Consult your Learning Resources Distributing Centre's *Buyers Guide* for current information.

If you require additional information, please contact Sharon Prather, Alberta Education, Curriculum Branch, Edwards Building, 10053 - 111 Street, Edmonton, Alberta. Telephone 427-2984. Fax 422-3745. Mailing address: Devonian Building, West Tower, 11160 Jasper Avenue, Edmonton, Alberta, T5K 0L2.

HEALTH
SERVICES
12-22-32 SERIES

HEALTH SERVICES 12 (5 credits)

INTRODUCTION

Health services careers are among the most rapidly expanding areas of career opportunities today. Present health care delivery systems are being expanded and personnel at all levels must be educated to meet present and future needs.

The curriculum, as presented, offers the student the opportunity to explore many health careers at a basic level. This familiarization with health careers is designed to stimulate an interest in the pursuit of further knowledge in the field.

Health Services 12 is an introductory course to the health services field and allows the student to advance to the 22-level and 32-level courses.

OBJECTIVES

The objectives of the Health Services 12 course are:

1. to provide an opportunity for the student to gain a basic knowledge of anatomy, physiology and pathology with regard to four body systems: skeletal, circulatory, respiratory and muscular
2. to provide an opportunity for the student to gain a knowledge of the principles and practices of first aid and care of the ill and/or injured, at home
3. to help the student understand common medical terminology as used in written and oral communication.

CONTENT

1. Skeletal System
2. Circulatory System
3. Respiratory System
4. Muscular Systems
5. Miscellaneous Injuries and Diseases
   - emergency treatment
6. Careers

HEALTH SERVICES 22 (5 credits)

INTRODUCTION

Health Services 22 provides basic information and the opportunity to practise skills common to a majority of the health services careers.

OBJECTIVES

The objectives of the Health Services 22 module are:

1. to help the student gain a basic knowledge of anatomy, physiology and pathology with regard to six body systems: integumentary, endocrine, nervous, digestive, urinary and reproductive

2. to help the student gain a basic knowledge of the principles and practices of related patient care procedures

3. to help the student understand the common treatments and diagnostic procedures for common diseases affecting the six body systems

4. to help the student extend an understanding of common medical terminology for use in written and oral communication.

CONTENT

1. Integumentary System
2. Endocrine System
3. Nervous System
4. Digestive System
5. Urinary System
6. Reproductive System

HEALTH SERVICES 32a (5 credits)

INTRODUCTION

Health Services 32a follows Health Services 22, in sequence, and provides more in-depth experiences in the field of health care.

OBJECTIVES

The objectives of the Health Services 32a module are:

1. to help the student gain basic knowledge regarding the progress of normal pregnancy, labour and delivery in the puerperium as well as associated complications

2. to help the student gain an understanding of the basic principles of nursing care required during pregnancy, labour, delivery and the puerperium

3. to help the student gain basic knowledge of the fundamental principles of the care required for the emotional and physical support of children

4. to help the student gain a basic knowledge of the treatments and diagnostic procedures for the common diseases affecting the newborn, infant, toddler, preschooler, school age and the adolescent child.

CONTENT

1. Obstetrics
   - reproductive system
   - pregnancy
   - complications of pregnancy
   - labour and delivery
   - postpartum care
2. Pediatrics
   - physical and emotional care of children
   - normal growth and development
   - newborns
   - infants
   - toddlers and preschoolers
   - school-agers
   - adolescents
3. Child Care
   - parenting skills
   - basic child care

HEALTH SERVICES 32b (5 credits)

INTRODUCTION

Health Services 32b deals with the broader aspects of health care including medical nursing, surgical nursing, gerontology and career explorations.

OBJECTIVES

The objectives of the Health Services 32b module are:

1. to help the student gain knowledge of the medical and surgical treatments used for common diseases affecting adults
2. to help the student gain knowledge of the ageing process, death and dying
3. to help the student gain knowledge of a selected career field in health care through work study
4. to help the student gain knowledge of the effects of drug use and abuse on persons, family, peers and community.

CONTENT

1. Medical Nursing
   - alcohol, the social drug
   - drug use and abuse
   - cancer
   - psychiatric care
2. Surgical Nursing
   - pre-operative care
   - post-operative care
   - home care
3. Gerontology
   - ageing process
   - senior citizens' lifestyles
   - death and dying
4. Career Exploration

BASIC LEARNING RESOURCES

Anthony, Catherine Parker and Gary A. Thibodeau. *Structure & Function of the Body*. Seventh edition. St. Louis, MI: Times Mirror/Mosby College Pub., 1984.

ISBN 0801602963

Brecher, Edward M. *Licit and Illicit Drugs*. Boston, MA: Little, Brown and Company, 1972.

ISBN 0316107174

The Canadian Mother and Child. Fourth edition. Ottawa, ON: Minister of Supply and Services Canada, 1979.

ISBN 0660100657

Draper, Henry E. and Wanda and Lenorah Barnes Polk. *Studying Children: Observing and Participating*. Second edition. Don Mills, ON: Collier Macmillan Canada, Inc., 1989.

ISBN 0026681609

Hornemann, Grace V. *Basic Nursing Procedures*. Albany, NY: Delmar Publishers Inc., 1980.

ISBN 0827313209

Kubler-Ross, Elisabeth. *On Death and Dying*. New York, NY: Macmillan Publishing Co., Inc., 1969.

ISBN 002089130X

Memmler, Ruth Lundeen and Dena Lin Wood. *The Human Body in Health and Disease*. Sixth edition. Philadelphia, PN: Lippincott, 1987.

ISBN 0397546041 [Student Textbook]
ISBN 039754605X [Student Workbook]

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INTEGRATED OCCUPATIONAL PROGRAM

OVERVIEW

The Integrated Occupational Program, Grades 8 through 12, is designed for students unable to cope with the regular program. The purpose of the program is to enable students to:

- become responsible members of society
- develop entry-level vocational abilities
- recognize the need for lifelong learning.

The five-year program consists of the following courses:

Language Arts/English
Mathematics
Science
Social Studies
Practical Arts/Occupations

Students may enter at the Grade 8, 9 or 10 level and a Certificate of Achievement will be awarded to those students who have successfully completed the Integrated Occupational Program.

RESOURCES

For information on programs of study/curriculum guides, basic learning resources, teacher resource manuals and student workbooks for the occupational component, contact Alberta Education, Learning Resources Distributing Centre, 12360 - 142 Street, Edmonton, Alberta, T5L 4X9. Telephone 427-2767. Fax 422-9750.

All programs of study and curricular support materials will carry interim status until September 1993.

LANGUAGE ARTS

CONTENTS

English Language Arts
  English 10-20-30
  English 13-23-33

Communications 21a-21b

Literature 21a-21b

Reading 10

English as a Second Language 10a-10b-10c

Français 10-20-30

French Language Arts 10-20-30

Ukrainian Language Arts [ECS - Grade 12]

ENGLISH LANGUAGE ARTS

THE PHILOSOPHY OF THE ENGLISH LANGUAGE ARTS PROGRAM

Grades 1-12

Certain fundamental principles relating to the nature of language, to children's development and to language learning have provided the theoretical framework for the development of the language arts program. Commitment to the program by teachers must be based on knowledge of what those principles are and on an understanding of what they mean in guiding the language process in school. The following then, are the principles and resulting implications that provide the major thrusts for the language arts program.

A language arts program should emphasize lifelong applications of language arts skills.

- Development of language arts skills is integrally related to success in one's further education, career and social life.

- Discriminating enjoyment of literature, live theatre, public speaking, films and other mass media can lead to an enriched use of leisure time.

Language use reflects the interrelatedness of the processes of listening, speaking, reading, writing and viewing.

- A language arts program that provides for a balanced approach must be based on the integrative nature of all aspects of receptive and expressive language skills.

- Language instruction should involve students in activities that focus on the unique contribution of the language skills when used separately and together.

- Classroom activities should incorporate experiences that reflect meaningful uses of language and provide for relating skills and content.

- A balanced program promotes the affective and psychomotor development of students as well as the cognitive dimensions of growth.

Language is used to communicate understandings, ideas and feelings, to assist social and personal development, and to mediate thought processes.

- Language learning activities provided in the classroom should be organized for a balance that reflects the actual use of language in the real world.

- Students need opportunities to gain competence in using language in a range of functions and in a variety of contexts.

- Students should use language to explore their own feelings and their relations with others.

- The school should help students extend their thinking skills and add meaning to their experiences.

Language functions throughout the entire curriculum.

- The application of language skills is necessary for successful achievement in all subject areas.
- Teachers in all subjects must assume responsibility for appropriate application of communication skills as they relate to their particular areas.

In the early years, the child's thinking and language ability develop in his or her own dialect.

- Initial learning experiences fostered by the school must be based on the acceptance and use of the oral language that young children bring to school.
- The acquisition of receptive and productive control of school language (standard English) is preceded by the goal of facilitating initial learning in children's own dialects.

In the high school years, more emphasis should be placed on the recognition of quality and flexibility in the use of language.

- Students should become increasingly discriminating in their evaluation of communications in a variety of modes.
- Students should communicate logic and clarity with increasing maturity.

Language variation is an integral part of language use.

- Teachers must accept and respect the unique language of each student and provide for language growth in a classroom environment characterized by mutual respect, acceptance and trust.
- The role of the school includes helping students to recognize, appreciate and respect language differences.
- The acquisition of standard dialect should occur within a framework that provides opportunities for students to hear and practise appropriate language forms in a variety of language situations.

Experience and language are closely interwoven in all learning situations. On the one hand, experiences expand students' language by providing them with new meanings and by modifying and enlarging those previously acquired. On the other hand, as students gain in their ability to understand and use language, they can enter into, comprehend and react to a variety of experiences.

- Students must be given opportunities to enlarge their experiences, including direct experiences and those obtained vicariously through listening, reading and viewing.
- Students must be given help in finding and using language to clarify and organize their thinking and feeling about their experiences.
- As students develop concepts and understandings there should be a continuous building from concrete experiences and discovery toward more abstract study and learning.

Language expansion occurs primarily through active involvement in language situations.

- School experiences must maintain the link between the learner and what is to be learned through activities that encourage student participation.
- Students should be given opportunities to participate in experiences that require use of language in increasingly differentiated contexts.

Through talk the students learn to organize their environment, interpret their experiences and communicate with others. As they mature they continue to use talk for these purposes as well as to check their understandings against those of others, and to build up an objective view of reality.

- At all levels of schooling, classes should be organized so that there are opportunities for teachers and students to interact through the medium of talk.

- The recognition of talk as a significant vehicle for learning must consider the processes involved in understanding meaning conveyed by others as well as the student's own expression of meaning.

- Experiences are enriched when they are shared through conversation and discussion.

Through writing the student can learn to clarify thought, emotion and experience, and to share ideas, emotions and experiences with others.

- Writing affords an opportunity for careful organization of one's picture of reality.

- Through writing students can be encouraged to develop the precision, clarity and imagination demanded for effective communication.

- Through writing students can become sensitive to different purposes and audiences in communication.

Various mass media have their own characteristic ways of presenting ideas.

- To discern the nature and value of ideas presented through mass media requires a knowledge of the language proper to a particular medium.

- The school must help students develop mass media literacy through an intelligent exploration of how ideas are conveyed and through discriminative reaction and personal use of media.

Literature is an integral part of language learning.

- Students should have many opportunities to experience and respond to literature at all stages of their development.

- Access to a wide variety of literary material is essential to a balanced, comprehensive literature program.

GOALS OF LANGUAGE ARTS FOR GRADES 1-12

Language is a social behaviour. Therefore, the language arts program should provide opportunities for students to experience language in functional, artistic and pleasureful situations with the aim:

- to develop awareness of and interest in how language works

- to develop an understanding and appreciation of a wide range of language use

- to develop flexibility in using language for a variety of purposes.

GENERAL LANGUAGE ARTS OBJECTIVES FOR GRADES 1-12

The program objectives for the language arts for Grades 1-12 arise out of the Goals of Basic Education and the goals for the language arts program for Grades 1-12. Although the objectives are applicable at all levels, the emphases may vary from level to level or from grade to grade. Through developing skills in listening, speaking, reading, writing, viewing and other related language abilities the program should assist students to grow in their knowledge of language, to appreciate its value in their lives, and to use it well. Accordingly, the program should provide opportunities for students to develop their understanding and apply their knowledge in the following dimensions of language.

1. Production and reception of sounds and printed words.

   This objective refers to the ability of students to hear and produce the sounds in words and to recognize and write words. It represents the phonics component of the objectives. Together with the next objective, it suggests that relationships between sounds and printed sentences are made in the context of the full meaning of individual sentences and large pieces of writing. These two objectives underscore the need for developing in students a "sense" or a "feeling" for what sentences and stories are.

2. Relationships between the flow of words in speech and the arrangement of words on the printed page.

   This objective deals with the development by students of an ability to recognize that lines of print are given meaning by the reader or the listener, and that pitch, pause and juncture in speech are related to the ways words are arranged and punctuated in print. In addition, there is an important implication here that writing and reading are skills to be dealt with together — to be integrated.

3. Use of language to talk about language.

   This objective is concerned with the introduction and extension of a useful vocabulary that will enable students to discuss their own writing and the writing of others. In elementary grades, for example, words like "sentence", "period" and "capital letter" are useful. In secondary grades, terms such as "subject", "agreement", "image", "symbol" and "metaphor" are appropriate. The emphasis here is on the immediate and continuing usefulness of such terms in classroom discussions of language.

4. Order and form of words as signals to meaning.

   This objective refers to the study of syntax and emphasizes the importance of the English language cueing system in learning to write and read. It points out that the positions of words in sentences signal meaning. For example, the word "the" is always followed by a noun. Our usual sentence arrangement is "subject — verb — object." Word endings such as "-ly", "-ing", or "-ed" are, in the context of sentences, cues to meaning.

5. Relationship between diversity and subtlety of word meanings and the total meaning of a communication.

   This objective deals with semantics, the relationship between meaning and word choice. Activities that promote vocabulary development are appropriate. Word banks, displays of words about the classroom, the development of individual dictionaries, and the use of dictionaries and thesauri are important.

6. Relationship between the manner in which ideas are organized and presented and the total meaning of a communication.

   This objective refers to style, whether in speech or in written prose and poetry.

   Literary presentations suit some kinds of ideas; exposition or narration suit others. Some ideas are presented through a combination of these forms. Thus, the objective is concerned with the full, interrelated meaning of the information carried and the feeling expressed in a communication. Meaning and feeling are affected by the style and the organization of the presentation.

7. Extension and enrichment of meaning through non-verbal communication.

   This objective is concerned with non-verbal communication as it contributes to the meaning of English language utterances. Hence, it includes facial and body movements that accompany speech, as well as pictures, music or other sounds that accompany and extend the meaning of both spoken and written expression.

8. Language variation according to audience, purpose, situation, culture and society.

   This objective refers to the ways in which communication acts relate to the circumstances in which they are used. It implies that writers, readers, listeners and speakers generate and interpret communication acts on the basis of their own experiences. It also suggests that writers and speakers need audiences, purposes and situations that are clearly defined when, in classroom exercises, they are asked to speak or to write. Objectives 6, 7 and 8 emphasize the crucial importance of knowing how and when to use language appropriately, rather than "correctly", and suggest that social penalties may result from being unable to do so.

9. Immediate language variation in sensitive response to audience reaction.

This objective builds on the previous four objectives and underscores the importance of the ability to adjust communication acts in accordance with the reactions of audiences. Thus, students should develop the ability to change the form or tone of a message they are attempting to communicate if audience reaction signals that it is beneficial to their purpose to do so.

10. Language is a dynamic system that records, reflects and affects cultures.

This objective emphasizes a number of linguistic factors, among which are these:

- sensitivity to language change
- acknowledgement of the importance of literature to a culture
- sensitivity to the ways in which various cultures affect change in the English language
- acknowledgement that the English language and its structures strongly affect and maintain our culture.

11. Use of language to explore the environment and ideas of others, to develop new concepts to evaluate what is discovered.

This objective refers to the use of language to find out about the world and those who live in it. As in the other objectives, discussion, reading, writing, viewing and listening are all involved in language as it operates as our basic vehicle for thought. This has relevance to the concept of thought levels and argues that attention be paid to inferential, appreciative and applicational levels of thought and comprehension.

12. Role of language in increasing understanding of self and others.

This objective emphasizes the roles of literature, writing and discussion as ways for understanding others and ourselves. It is particularly important to the fulfillment of this objective that writing and discussion be looked upon as ways of organizing and explaining our own thoughts and feelings to ourselves. This objective suggests that various grouping procedures be used to facilitate discussion.

13. Use of language to stir imagination, deepen understanding, arouse emotion and give pleasure.

14. Relationship of language to other forms of artistic expression.

Objectives 13 and 14 emphasize the appreciation of artistic, carefully presented written and spoken communication and suggest the study of figurative language and the use of multisensory approaches. These objectives recognize the importance of relating form and feeling in all artistic expression. These two objectives stress, as well, the ways in which various artistic forms of expression seek to deal with feelings and values and, in general, with what it is to be a human being.

STATEMENT OF CONTENT

ENGLISH 10-20-30 AND 13-23-33

The following pages outline the content for the Senior High Language Arts Program (English 10-20-30 and 13-23-33). It is intended that teachers make minor adjustments to these statements to meet the needs of students.

Each page is arranged as follows:

1	2	3	4
Concepts for Senior High	**Grade 10 Skills**	**Grade 11 Skills**	**Grade 12 Skills**

COLUMN 1: contains concepts for the whole senior high program. Teachers should work toward the understanding of these concepts throughout the whole senior high experience.

COLUMN 2: includes skills to be developed in Grade 10. These skills are related to the concept immediately to the left, in Column 1. Both concepts and skill(s) should be developed together.

COLUMN 3: includes skills to be developed in Grade 11. These skills are also related to the concepts to the left, in the same row. It is expected that the level of understanding of the concepts and the level of skill development will expand or extend ability that has been developed in previous grade(s).

COLUMN 4: includes skills to be developed in Grade 12. Similar relationships and expectations exist here, as in Grade 11.

NOTE: In cases where the skill(s) have been extended across three columns, it is expected that teachers will help students increase in proficiency from grade to grade, even though varying levels of proficiency have not been specified.

INTEGRATION

In identifying content for the senior high language arts, an attempt has been made to make statements in the areas of listening, speaking, reading/literature, writing and viewing. Although these skills and concepts are listed separately, it is expected that teachers will make every attempt to teach them in an integrated fashion so that the interrelationship between and among these skills will be understood and applied by students. Further information on integration is available in the *Senior High School Language Arts Curriculum Guide*, 1982.

SEQUENCE

It is not intended that teachers start at the beginning of the Statement of Content and teach all concepts and skills in the order in which they are presented here. Rather, concepts and/or skills may be grouped in various ways to support the approach to teaching adopted by the teacher.

STATEMENT OF CONTENT: ENGLISH 10–20–30

WRITING

<table>
<tr><th>Concepts</th><th>Skills 10</th><th>Skills 20</th><th>Skills 30</th></tr>
<tr><td></td><td><i>Students should be able to:</i></td><td><i>Students should be able to:</i></td><td><i>Students should be able to:</i></td></tr>
<tr><td rowspan="4">1 Appropriate prewriting strategies can assist a writer in discovering and expressing meaning.</td><td colspan="3">– use brainstorming, group or class discussion, exploratory writing, personal experience and incidental reading to generate ideas for writing</td></tr>
<tr><td>– identify and limit a topic with some assistance from class discussion or teacher suggestion, and select material appropriate to their subject, purpose and audience from ideas generated during prewriting activities</td><td colspan="2">– establish an appropriately limited topic, select material appropriate to their subject, purpose and audience from ideas generated during prewriting, and supplement it where necessary with additional material</td></tr>
<tr><td colspan="3">– recognize the value of drawing upon personal and vicarious experience in producing an individual approach to a composition</td></tr>
<tr><td colspan="3">– plan their composition, and allow for discovery of meaning as they write</td></tr>
</table>

BEST COPY AVAILABLE

English Language Arts (Senior High) 8
(Revised 1981)

WRITING (continued)

Concepts	Skills 10	Skills 20	Skills 30
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
2. Appropriate organization and development of meaning are essential qualities of written composition.	– write an introduction that leads the reader directly to the topic	– write an introduction that engages the interest and focuses the attention of the reader	– write an introduction that engages the interest and focuses the thoughts of the reader, and establishes the mood and tone of the composition
	– state a thesis clearly, when appropriate, and limit the content of the composition to pertinent material	– achieve unity of thought and purpose through using an expressly stated thesis, when appropriate	– develop theme with or without an explicit thesis statement
	– demonstrate awareness of the importance of developing ideas rather than simply stating them	– choose a method of development suitable for a particular purpose and audience	– use a variety of methods of development and, when appropriate, incorporate research material smoothly and effectively into the composition
	– use various methods of development such as reasons, examples, descriptive details and illustrations	– use methods of development such as inductive and deductive reasoning, analogy, definition and dialogue	
	– demonstrate the ability to organize their thoughts coherently		
	– compose a suitable ending	– write a conclusion that follows the train of thought established	– demonstrate the ability to trace a coherent thought pattern to a suitable conclusion

WRITING (continued)

Concepts	Skills 10	Skills 20	Skills 30
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
3. Effective revision involves careful evaluation of ideas and a further shaping of the composition.	– review assignments and compositions carefully to assure that all instructions have been followed		
	– identify and improve the expression of ideas not adequately developed, and eliminate extraneous material	– evaluate the ideas included in terms of their appropriateness to the subject, audience and purpose	
		– recognize and improve areas of weakness resulting from faulty reasoning, inappropriate emphasis, or inadequate explanation, support or development	
	– revise, where appropriate, their word choice and sentence structure	– examine the precision of diction, the variety of sentence structure, the effectiveness of stylistic choices, and the level of formality of language used, and revise where appropriate	
	– proofread for errors in grammar, usage, punctuation and spelling	– examine for faulty mechanics, unity, coherence, emphasis and proportion	
	– prepare a final draft, carefully edited and proofread, with a suitable title, footnotes and bibliography, where appropriate		
4. A writer's ideas and experiences can be presented through various modes of discourse.	– use personal or exploratory writing, such as journal writing or personal reactions, to express and clarify their thoughts and feelings, and to develop ideas for other types of writing		
	– share some of their thoughts or feelings through shaped and polished writing, such as personal essays, short stories or poems		
	– use clear, functional prose when their purpose is utilitarian, such as when writing a report or a literary criticism		

WRITING (continued)

Concepts	Skills 10	Skills 20	Skills 30
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
5. Writers should use an appropriate prose form for their intentions.	– write a convincing argument in support of a clearly defined position		– present a convincing argument through logical thought and persuasive language
	– report on an activity or subject within their own experience on which they have done some research	– write a short research paper on an assigned topic or a topic of their own choosing	– present their point of view in a literary essay which, where appropriate, smoothly and effectively incorporates the results of their research
		– write social and business letters in language appropriate to the purpose and audience	– produce a complete, useful resumé and covering letter
	– narrate events clearly arranging them in chronological order and maintaining point of view	– use narration and description effectively to fulfill their purpose	
		– present their point of view in a personal or reflective essay	

READING/LITERATURE

Concepts	Skills 10	Skills 20	Skills 30
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
6. Reading is a process that demands active involvement of the reader.	– respond to the material that they read with increasing sensitivity, thoughtfulness, articulateness and self-reliance		
	– understand that the study of literature involves initial reading of the material; personal response; sufficient thoughtful consideration to assure understanding; possible sharing of one's response with others, orally or in writing; and, where appropriate, a personal, social or critical evaluation		
7. The study of literature can fulfill a variety of goals for the individual.	– understand that reading literature can increase enjoyment, knowledge and appreciation of literature; develop understanding of themselves and others; and broaden their knowledge of their cultural heritage		
8. Enjoyment and appreciation of literature depend on favourable attitudes, extended range of reading materials, extended range of responses and stimulation of imagination.	– read literature for the enjoyment and stimulation of the imagination it provides, as well as for an understanding of its content and emotional appeal		– read literature for enjoyment, understanding and appreciation of its literary and social value
9. Human experiences and values can be explored through literature.	– expand experience vicariously	– examine values expressed through literature	– become aware of some of the variety, origins, conflicts and trends in human values
	– relate literary experience to personal experience	– relate personal and societal values to values expressed through literature	– appraise the values expressed in a literary selection

READING/LITERATURE (continued)

Concepts	Skills 10	Skills 20	Skills 30
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
10. Comprehension of meaning in literature may require understanding the author's purpose, making inferences, understanding allusions and symbols.	– identify the author's purpose for writing	– differentiate between escapist and interpretive literature	– evaluate the extent to which a specific piece of writing achieves its purpose
	– recognize implications and identify readily the more subtle inferences in their reading		
	– differentiate between literal and figurative statements		
	– recognize common allusions and discuss their significance in context	– recognize and explain a wider range of allusions in context	
		– use appropriate references to comprehend allusions	
	– understand the use of symbols to express abstract ideas in concrete terms, recognize the common use of symbols in their own language and everyday life, recognize common literary symbols	– recognize the possibility of a symbolic meaning for a prominent object in a literary work	– demonstrate an increased ability to interpret symbols and symbolic patterns in literature
	– understand the concept of theme, and identify theme(s) in a literary selection	– state a theme clearly, taking into account the milieu from which it arose	– understand the themes in literary works and evaluate their validity in terms of milieu, and in relation to life in general and to the students' own experience

READING/LITERATURE (continued)

Concepts	Skills 10	Skills 20	Skills 30
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
11. An informed critical response requires an understanding of literary form, structure and style.	- understand the characteristic differences between prose and poetry; non-fiction and fiction; between materials designed for silent and oral reading and oral-visual presentation	- relate the structure of a work to the author's purpose and theme	- evaluate how content, emphasis, imagery and organization are influenced by the writer's choice of literary form
	- discuss the structure of the plot of a short story, novel, drama or narrative poem, using appropriate terminology	- discuss the organization of a personal or an informational essay, and comment on the way in which it contributes to the total effect of the essay	- understand the concept of artistic unity, and should appreciate the way in which a good writer's form and ideas are shaped into an artistic unit
	- understand the basic concepts of poetic form		
	- recognize some stylistic devices used in literature, such as imagery	- demonstrate an understanding of the manner in which the author uses figurative and stylistic devices to achieve his or her purpose	- identify the effect created by the author's style, and examine the methods by which it is achieved
	- recognize the point of view in literary selections that they read	- understand the concepts of mood and tone, and be able to discuss how point of view, mood and tone contribute to the effect of a piece of literature	
		- understand the concepts of satire and irony, and the techniques of humour	

READING/LITERATURE (continued)

Concepts	Skills 10	Skills 20	Skills 30
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
12. Understanding and appreciating literature is enhanced by the ability to interpret character and to recognize effective characterization.	– use precise diction to describe characters – infer the motive for a character's behaviour and judge the plausibility of character change	– recognize direct and indirect characterization – identify the influence of psychological and social pressures upon behaviour of characters	– judge the quality of characterization – evaluate the author's approach to characterizing, and the consistency and plausibility of the characters
13. The significance of the action in a piece of literature is affected by the temporal and social milieu in which it was produced, and in which it is set.	– consider the temporal and physical setting in interpreting the action of a narrative	– assess the effect of the setting on the action and characters and the effect of the social and temporal milieu from which the literature comes	
14. In order to appreciate English literature, and develop an awareness of their literary heritage, students should have acquaintance with some authors who have contributed to that heritage.		– be acquainted with the works of some major Canadian authors	– demonstrate some understanding of their literary heritage through the study of some authors and works; emphasis should be on examination of individual pieces of literature rather than on the work of individual authors or historical periods

READING/LITERATURE (continued)

<table>
<tr><th>Concepts</th><th>Skills 10</th><th>Skills 20</th><th>Skills 30</th></tr>
<tr><td></td><td>Students should be able to:</td><td>Students should be able to:</td><td>Students should be able to:</td></tr>
<tr><td>15. Effective readers are able to select and use reading strategies appropriate to their purpose in reading for enjoyment, information or literary appreciation.</td><td colspan="3">– recognize that both reading rate and comprehension may be increased through the application of good reading techniques, such as reading in large thought units and making effective use of contextual clues, and that comprehension must not be sacrificed for speed</td></tr>
<tr><td></td><td colspan="3">– recognize that reading rate should vary depending on purpose and material, and be able to use a reading rate appropriate to the purpose and complexity of the material</td></tr>
<tr><td></td><td>– use skimming as a rapid reading technique, and use scanning as a process for locating information quickly</td><td colspan="2">– demonstrate increased ability to skim and scan for required information</td></tr>
<tr><td></td><td>– recognize that reading of complex material will be more effective if a reading strategy such as SQ3R (Survey–Question–Read–Recite–Review) is used</td><td>– know and use, in appropriate circumstances, a method of reading, such as the SQ3R, for study purposes</td><td>– demonstrate increased ability in using intensive reading skills effectively</td></tr>
<tr><td></td><td>– locate required information in the school library, using a variety of standard sources</td><td>– show increased independence in locating required information in the school and public libraries</td><td></td></tr>
</table>

VIEWING

Concepts	Skills 10	Skills 20	Skills 30
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
16. Appreciation and understanding of a visual message requires an understanding of purpose.	– identify the purpose, message and intended audience of viewed communications	– identify the level at which a visual image communicates, and discuss its relation to the basic purpose for which the image was produced	
17. Elements in and structure of the image strongly influence the total effect of the communication.	– understand that the message of a visual presentation is affected by factors such as colour, angle and movement	– relate the elements of the image to the purpose and message of the image	– analyze the structure of a visual message by expressing the relationships among the purpose of the image, its content and style, and the unified effect that results
	– recognize how the content of the image is affected by the use of such devices as camera angles, framing and arrangement into sequences	– appreciate effects of editing, such as biasing content, and enhancing mood or theme	
18. Many "visual communications" are really audio-visual messages that use sound and image together to communicate a message.	– recognize the intentional use of sound to create appropriate atmosphere for the visual message, to communicate content that is supplemented by the visual message, or to soothe, irritate or distract the viewer	– discuss the relationships among sound effects, language or other non-visual means and the visual image in media, such as film and television, and of language and visual imagery in newspapers or magazines, especially advertising and cartoons	– discuss the artistic unity resulting from combined visual effects, sound effects, and language in a mixed-media presentation, television production or film
19. The viewer must evaluate the apparent reality created in media products.	– discuss emotions, facts and opinions expressed visually	– analyze propaganda and advertising techniques used in viewed messages	– analyze and evaluate the extent to which manipulative devices are used in the material they encounter in their daily lives – evaluate the aura of reality created in visual messages, especially propaganda

VIEWING (continued)

Concepts	Skills 10	Skills 20	Skills 30
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
20. Visual communication is similar in many ways to verbal forms of communication.	- discuss relationships among feature films, TV movies, novels and plays or among short films, short stories, one-act plays and poetry	- recognize that visual messages may employ imagery, mood, irony, satire, tone, symbolism, humour, structure and pace	- appreciate that visual media make use of stylistic devices (colour, texture, body language, connotation) to influence the viewer, and relate this knowledge to the use in literature of such stylistic devices as sensory impression, diction and rhythm - evaluate the stylistic features of a visual message

LISTENING

Concepts	Skills 10	Skills 20	Skills 30
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
21. Listening is an active not a passive process.	– recognize that effective listening is an active process requiring not only literal comprehension but also interpretive and critical thinking – observe the courtesies of a good listener	– identify and consider the factors that interfere with effective listening, and overcome interferences created by the environment, the speaker and the listeners themselves	
22. Sensitivity to ideas, tone and purpose is an integral part of receiving a spoken communication.	– recognize and recall the central and supporting ideas in an oral presentation		
	– identify the speaker's purpose	– recognize the speaker's attitude, tone and bias – distinguish between emotional appeal and reasoned argument	– infer mood and tone in an oral communication
	– be sensitive to both verbal and non-verbal indicators of the speaker's intent or attitude, such as inflection and gestures		
23. Listening to obtain information involves attentive, open-minded reception of the message presented.	– recognize that listening for information is an everyday activity that can be improved by knowing and using good listening techniques	– use effective listening techniques, such as mentally reviewing major points of the message	– listen actively for the speaker's theme, main ideas and supporting details, and organize and review these in their minds as they listen – seek clarification of information not understood, or expansion of ideas superficially developed

LISTENING (continued)

Concepts	Skills 10	Skills 20	Skills 30
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
24. Critical listening involves an assessment of the validity of the message presented.	– distinguish between fact and opinion	– identify basic persuasive techniques, such as glittering generalities, flattery, appeals to fear or prejudice	– assess the overall degree of completeness, balance and logic of a presentation, and evaluate both the performance of the speaker and the content of the address
	– identify the functions and intentions of the speaker, and differentiate between the content of the address and the performance of the speaker	– analyze a variety of presentations to identify the persuasive techniques used	
		– detect fallacies in the speaker's argument	
		– evaluate the source of information	

SPEAKING

Concepts	Skills 10	Skills 20	Skills 30
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
25. The ability to speak easily, clearly and effectively is an essential communication skill.	– realize that they can clarify and extend their own thinking by expressing their thoughts orally – express their thoughts clearly when responding to literature, when generating ideas for writing and more formal speaking, and when revising and editing their material, such as in writing workshop situations – increase their confidence in speaking extemporaneously on familiar topics, in oral reading of appropriate prose or poetry selections, and in giving prepared talks from notes or memory – exhibit increased facility in the effective use of vocabulary to convey ideas and feelings accurately and concisely – use voice production factors, such as volume and stress, and non-verbal factors, such as gestures and eye contact effectively, to communicate meaning, mood and interest		
26. The ability to function effectively in a group includes using talk to advance the purposes of the group and respecting group etiquette.	– make a positive contribution to a small group discussion by contributing to the advancement of the ideas and thinking of the group, and by observing the courtesies of group discussion	– discuss factors that impair group discussion, such as individuals focusing on personal needs, and become familiar with the role of group leader	– demonstrate increased facility in functioning as both a group member and a group leader
	– summarize the main points and conclusions		– share ideas in large groups

SPEAKING (continued)

Concepts	Skills 10	Skills 20	Skills 30
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
27. Communication situations call for appropriate language, tone and non-verbal behaviour to suit the audience, occasion or purpose.	– express their thoughts and feelings, explore ideas, and seek information through talk that is appropriate to their audience, purpose and context		
	– understand and observe the rules and procedures that govern a business meeting	– know how to function at more formal social gatherings, such as how to make and reply to a toast and how to introduce a speaker	– use the procedures and courtesies common to an interview situation
	– develop competence in presenting information orally, enhancing some presentations by the use of diagrams, charts or demonstrations, if appropriate	– characterize persuasive speech, and speak persuasively in appropriate situations	– demonstrate increased facility with both explanatory and persuasive speaking in class situations
	– develop a topic adequately, arrange ideas in an appropriate order, and finish with a concluding statement	– speak using a variety of methods for leading into the topic, develop the topic using various developmental devices and organizational techniques, and end by summing up with a strong concluding statement	– demonstrate increasing confidence in effectively opening, developing and concluding a talk

STATEMENT OF CONTENT: ENGLISH 13-23-33

WRITING

Concepts	Skills 13	Skills 23	Skills 33
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
1. Appropriate prewriting strategies can assist a writer in discovering and expressing meaning.	– use brainstorming, group or class discussion, exploratory writing, personal experience and incidental reading to generate ideas for writing		
	– identify their purpose and audience, and direct their writing to that audience		....
	– identify a topic with some assistance from teacher suggestion, and select appropriate supporting material from ideas generated through prewriting activities	– establish an appropriately limited subject for writing, and identify suitable material from that which has been generated in prewriting activities	– limit their subject quite independently, and provide sufficient materials for their purpose
	– recognize the value of using their personal experiences for examples and illustrations in support of an idea	– recognize situations where other sources of information are needed, and find and incorporate this information into their composition	– use the appropriate prewriting activities in fulfilling their intention
	– plan their compositions, and allow for discovery of meaning as they write		....
2. Appropriate organization and development of meaning are essential qualities of written composition.	– write an introduction that leads directly to the topic	– write an introduction that engages the interest and focuses the attention of the reader	
	– develop their ideas by using methods appropriate to their topics; e.g., examples or reasons	– use methods of development suitable for their particular purpose and audience	– make use of a variety of methods of development
	– demonstrate the ability to organize their thoughts coherently	....	....
	– compose a suitable ending	– write a conclusion that follows the train of thought established	– conclude without a mechanical repetition of ideas

WRITING (continued)

<table>
<tr><th>Concepts</th><th>Skills 13</th><th>Skills 23</th><th>Skills 33</th></tr>
<tr><td></td><td>Students should be able to:</td><td>Students should be able to:</td><td>Students should be able to:</td></tr>
<tr><td rowspan="5">3. Effective revision involves careful evaluation of ideas and further shaping of the composition.</td><td colspan="3">– review assignments and compositions carefully to assure all instructions have been followed</td></tr>
<tr><td colspan="3">– identify those ideas that have not been adequately developed, and improve the expression of those thoughts</td></tr>
<tr><td colspan="3">– revise their word choice and sentence structure in terms of subject appropriateness, purpose and audience</td></tr>
<tr><td>– proofread their composition for errors in grammar, usage, punctuation and spelling</td><td>– examine their composition for faulty mechanics, unity and coherence</td><td>– examine their composition for faulty mechanics, unity, coherence, emphasis and proportion</td></tr>
<tr><td colspan="3">– produce a revised version, carefully proofread, with a suitable title, footnotes and bibliography, where appropriate</td></tr>
<tr><td rowspan="3">4. A writer's ideas and experiences can be presented through various modes of discourse.</td><td colspan="3">– use personal or exploratory writing, such as journal writing or personal reactions, to express and clarify their thoughts and feelings, and to develop ideas for other types of writing</td></tr>
<tr><td colspan="3">– share some of their thoughts or feelings with other people through shaped and polished writing</td></tr>
<tr><td colspan="3">– use clear, functional prose when their purpose is utilitarian, such as when conveying information or arguing a point of view</td></tr>
<tr><td rowspan="3">5. The ability to write clearly, in a manner appropriate to the occasion, is an important life skill.</td><td>– write social letters in language appropriate to the purpose and audience</td><td colspan="2">– write clear, concise business letters, such as letters of request or complaint, using a courteous, businesslike tone</td></tr>
<tr><td>– complete a variety of forms</td><td>– produce a complete and useful resumé</td><td>– prepare a resumé and covering letter for specific application</td></tr>
<tr><td>– write a concise, factual short report in response to a specific assignment or on a subject in which the student has a special interest</td><td>– write a clear, well-organized report on a topic that requires some investigation</td><td>– write for a specific purpose and audience an acceptable report that includes appropriate material located through research</td></tr>
</table>

READING/LITERATURE

Concepts	Skills 13	Skills 23	Skills 33
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
6. Reading is a process that demands active involvement of the reader.	– respond to the material that they read with increasing sensitivity, thoughtfulness, articulateness and self-reliance		
	– understand that the study of literature involves initial reading of the material; personal response; sufficient thoughtful consideration to assure understanding; possible sharing of one's response with others, orally or in writing; and, where appropriate, a personal, social or critical evaluation		
7. The study of literature can fulfill a variety of goals for the individual.	– understand that reading literature can increase enjoyment, knowledge and appreciation of literature and develop understanding of themselves and others		
8. Enjoyment and appreciation of literature depend on favourable attitudes, extended range of reading materials, extended range of responses, and stimulation of imagination.	– read literature for the enjoyment and stimulation of the imagination it provides	– read literature for enjoyment and understanding of its content and emotional appeal	– read literature for enjoyment, understanding and appreciation
9. Human experience and values can be explored through literature.	– describe the major physical characteristics and personality traits of characters	– discover and discuss the motives of a character's actions	– infer and evaluate the motivation for a character's behaviour
	– expand experience vicariously	– examine values expressed through literature	– become aware of some of the variety, origins, conflicts and trends in human values
	– relate literary experience to personal experience	– relate personal and societal values to values expressed through literature	– appraise the values expressed in a literary selection

READING/LITERATURE (continued)

Concepts	Skills 13	Skills 23	Skills 33
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
10. The understanding and appreciation of a literary selection is dependent upon the recognition and understanding of the general characteristics of literary forms and the relationship of form, idea and purpose.	– identify the subject and purpose	– identify the theme(s)	– assess the validity of the theme(s) in relation to life in general and in relation to their own experience
	– retell or summarize the content and identify the basic organization the author has used	– distinguish between major and minor events or ideas, and identify the influences of the setting on character and action	– consider how the impact of a work is affected by its organization, such as a cliff-hanger ending
	– distinguish among the various forms of literature, such as prose, poetry, drama	– compare and contrast the presentation of ideas in two or more literary forms	– generalize about the effect of form in literary selections read
	– identify the point of view of a literary selection	– recognize the mood and tone of a literary selection	– recognize how the point of view, mood or tone influences the effect of a particular work
11. Locating, selecting and evaluating written materials, frequently required to fulfill one's purpose in reading, are important life skills.	– identify their purpose for reading, and extract information based on that purpose	– identify their purpose for reading, and select appropriate information	– identify their purpose for reading, and select and synthesize relevant ideas
	– find information in such sources as newspapers, magazines, instruction sheets and handbooks	– gain information from special interest books and periodicals, encyclopedias and other reference books	– use technical publications, trade journals, advanced instruction books and other reference materials
		– arrange information for use in achieving purpose	– obtain occupational information
			– assess and evaluate information in terms of its projected use

READING/LITERATURE (continued)

Concepts	Skills 13	Skills 23	Skills 33
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
12. An effective reader is able to select and use a variety of strategies appropriate to his or her purpose.	– recognize that both reading rate and comprehension may be increased through the application of good reading techniques, such as reading in large thought units and making effective use of contextual clues, and that comprehension must not be sacrificed for speed		
	– recognize that reading rate should vary depending on purpose and material, and be able to use a reading rate appropriate to the purpose and complexity of the material		
	– use skimming as a rapid reading technique, and use scanning as a process for locating information quickly	– demonstrate increased ability to skim and scan for required information	
	– recognize that reading of complex material will be more effective if a reading strategy such as SQ3R (Survey–Question–Read–Recite–Review) is used	– know and use, in appropriate circumstances, a method of reading, such as the SQ3R, for study purposes	– demonstrate increased ability in using intensive reading skills effectively

VIEWING

Concepts	Skills 13	Skills 23	Skills 33
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
13. Appreciation and understanding of a visual message requires an understanding of purpose.	– identify the purpose, message and intended audience of viewed communications	– identify the level at which a visual image communicates, and discuss its relation to the basic purpose for which the image was produced	
14. Elements in and structure of the image strongly influence the total effect of the communication.	– understand that the message of a visual presentation is affected by factors such as colour, angle and movement	– relate the elements of the image to the purpose and message of the image	– analyze the structure of a visual image by expressing the relationship among the purpose of the image, its content and style
	– recognize how the content of the image is affected by the use of such devices as camera angles, framing and arrangement into sequences	– appreciate effects of editing, such as biasing content, and enhancing mood or theme	
15. Many "visual communications" are really audio-visual messages that use sound and image together to communicate a message.	– recognize the intentional use of sound to create appropriate atmosphere for the visual message, to communicate content that is supplemented by the visual message, or to soothe, irritate or distract the viewer	– discuss the relationships among sound effects, language or other non-visual means and the visual image in media, such as film and television, and of language and visual imagery in newspapers or magazines, especially advertising and cartoons	– discuss combined visual effects, sound effects, and language in a mixed-media presentation, television production or film

VIEWING (continued)

Concepts	Skills 13	Skills 23	Skills 33
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
16. The viewer must evaluate the apparent reality created in media products.	– discuss emotions, facts and opinions expressed visually	– analyze propaganda and advertising techniques used in viewing messages	– analyze and evaluate the extent to which manipulative devices are used in the material they encounter in their daily lives – evaluate the aura of reality created in visual messages, especially propaganda
17. Visual communication is similar in many ways to verbal forms of communication.	– discuss relationships among film, television, cartoons, advertising and literature	– recognize that visual messages may employ imagery, mood, irony, tone, symbolism, humour, structure and pace	– discuss the ways in which visual media make use of stylistic devices (colour, texture, body language, connotation) to influence the viewer

LISTENING

Concepts	Skills 13	Skills 23	Skills 33
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
18. Listening is an active not a passive process.	- recognize that effective listening is an active process requiring not only literal comprehension but also interpretive and critical thinking - observe the courtesies of a good listener	- identify and consider the factors that interfere with effective listening, and attempt to overcome interferences created by the environment, the speaker and the listeners themselves	
19. Sensitivity to ideas, tone and purpose is an integral part of receiving a spoken communication.	- recognize and recall the central and supporting ideas in an oral presentation		
	- identify the speaker's purpose	- recognize the speaker's attitude, tone and bias	- infer mood and tone in an oral communication - distinguish between emotional appeal and reasoned argument
	- be sensitive to both verbal and non-verbal indicators of the speaker's intent or attitude, such as inflection and gestures		
20. Listening to obtain information involves attentive, open-minded reception of the message presented	- recognize that listening for information is an everyday activity that can be improved by knowing and using good listening techniques	- use effective listening techniques, such as mentally reviewing major points of the message	- listen actively for the speaker's theme, main ideas and supporting details, and organize and review these in their minds as they listen - seek clarification of information not understood, or expansion of ideas superficially developed

LISTENING (continued)

Concepts	Skills 13	Skills 23	Skills 33
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
21. Critical listening involves an assessment of the validity of the message.	– distinguish between fact and opinion	– identify basic persuasive techniques, such as glittering generalities, flattery, appeals to fear or prejudice	– detect fallacies in the speaker's argument such as hasty generalizations for false analogies
	– identify the functions and intentions of the speaker, and differentiate between the content of the address and the performance of the speaker	– analyze a variety of presentations to identify the persuasive techniques used	– assess both the performance of the speaker and the content of the address
			– evaluate the source of information

SPEAKING

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– express their thoughts clearly when responding to literature, when generating ideas for writing, and when revising and editing their material, such as in writing workshop situations
– increase their confidence in speaking extemporaneously on familiar topics, in oral reading of appropriate prose or poetry selections, and in giving prepared talks from notes or memory
– exhibit increased facility in the effective use of vocabulary to convey ideas and feelings accurately and concisely
– use voice production factors, such as volume and stress, and non-verbal factors, such as gestures and eye contact effectively, to communicate meaning, mood and interest</td></tr>
<tr><td>23. The ability to function effectively in a group includes using talk to advance the purposes of the group and respect for group etiquette.</td><td>– make a positive contribution to a small group discussion by contributing to the advancement of the ideas and thinking of the group, and by observing the courtesies of group discussion
– summarize the main points and conclusion</td><td>– discuss factors that impair group discussion, such as individuals focusing on personal needs, and become familiar with the role of group leader</td><td>– demonstrate increased facility in functioning as both a group member and a group leader</td></tr>
</table>

SPEAKING (continued)

Concepts	Skills 13	Skills 23	Skills 33
	Students should be able to:	*Students should be able to:*	*Students should be able to:*
24. Communication situations call for appropriate language, tone and non-verbal behaviour to suit the audience, occasion or purpose.	– express their thoughts and feelings, explore ideas, and seek information through talk that is appropriate to their purpose, audience and setting		
	– develop competence in presenting information orally, such as explaining and giving directions	– characterize persuasive speech, and speak persuasively in appropriate situations	– demonstrate increased facility with both explanatory and persuasive speaking in class situations
	– enhance some presentations with the use of diagrams, charts or demonstrations		
		– develop a topic adequately, arrange ideas in appropriate order and finish with a concluding statement	
	– function at informal social gatherings, such as introducing people and starting conversations	– understand and observe the rules and procedures that govern a business meeting	– know how to function at more formal gatherings, such as introducing speakers and making and replying to toasts
	– use the procedures necessary to participate in an effective job interview	– use the procedures and courtesies common to an interview situation	– participate effectively in a job interview

MINIMUM REQUIREMENTS FOR LITERATURE

In planning to meet the course objectives outlined in the Statement of Content, teachers must meet the following minimum requirements.

	English 10	English 20	English 30
Short Story	Six	Six	Six
Poetry	Required	Required	Required
Short Non-fiction (essays)	Optional	Five	Eight
Plays	Required – One Modern or – One Shakespearean	Required – One Shakespearean	Required – One Modern and – One Shakespearean
Novel	One	One	Optional
Full Length Non-fiction	Optional	Optional	Optional

	English 13	English 23	English 33
Short Story	Required	Required	Required
Poetry	Optional	Required	Required
Short Non-fiction (essays)	Required	Required	Required
Plays	Required – One Modern	Required – One Modern	Required – One Modern or – One Shakespearean
Novel	One	One	One
Full Length Non-fiction	Optional	Optional	Optional

CANADIAN LITERATURE REQUIREMENTS

Of the literature taught in each senior high course, the following proportion is to be Canadian literature.

English 10	One quarter	English 13	One third
English 20	One half	English 23	One third
English 30	One quarter	English 33	One third

BASIC LEARNING RESOURCES

English 10

Cameron, B. *Poetry in Focus.* Globe Modern, 1983. [Poetry]

ISBN 0889960666

Eckersley, W. *Impact.* Fitzhenry and Whiteside, 1968. [Poetry]

ISBN 0460926101

Jewkes, W. T. *Man the Myth-Maker.* Second edition. HBJ-Holt-Saunders, 1981. [Myth, Short Stories and Poetry]

ISBN 0153334681

MacNeill, J. A. *Sunburst.* Nelson, 1982. [Poetry]

ISBN 017601814X

MacNeill, J. A. et al. *Sunlight and Shadows.* Nelson, 1974. [Short Stories]

ISBN 0176329196

McMaster, R. J. *Communicating in Your World.* HBJ-Holt-Saunders, 1979. [Composition and Language]

ISBN 0774711213

Messenger, W. E. *The Canadian Writer's Handbook.* Prentice Hall, 1986. [Handbook]

ISBN 0131132598

Metcalf, J. *Kaleidoscope.* Nelson, 1972. [Canadian Short Stories]

ISBN 0176017585

Metcalf, J. *New Worlds.* McGraw-Hill, 1980. [Short Stories]

ISBN 0070779899

Paustian, S. I. *Through the Open Window.* Oxford University Press, 1983. [Poetry]

ISBN 0195404122

Schoen, C. *The Writing Experience.* Canadian edition. McClelland & Stewart, 1981. [Composition and Language]

ISBN 0771080026

Shaw, H. *Handbook of English.* Fourth Canadian edition. McGraw-Hill, 1986. [Handbook]

ISBN 0075489864

English 20

Buxton, E. W. et al. *Prose for Discussion.* Second edition. Gage, 1980. [Short Stories and Essays]

ISBN 0771520042

Gillanders, C. *Theme and Image I.* Copp Clark, 1976. [Poetry]

ISBN 077302302X

Messenger, W. E. *The Canadian Writer's Handbook.* Prentice Hall, 1986. [Handbook]

ISBN 0131132598

Shaw, H. *Handbook of English.* Fourth Canadian edition. McGraw-Hill, 1986. [Handbook]

ISBN 0075489864

Weaver et al. *Oxford Anthology of Canadian Literature*. Second edition. Oxford University Press, 1981. [Multigenre]

ISBN 0195403762

West, W. W. et al. *Developing Writing Skills*. Third Canadian edition. Prentice Hall, 1981. [Composition and Language]

ISBN 0132053284

English 30

Gehle, Quentin L. and Duncan J. Rollo. *The Writing Process*. Canadian edition. Nelson Canada Ltd., 1981. [Composition and Language]

ISBN 0176015310

Gillanders, G. *Theme and Image II*. Copp Clark Pitman, 1967. [Poetry]

ISBN 0773026517

Hogins, J. B. *Literature: Poetry*. SRA, 1974. [Poetry]

ISBN 0574191305

Landy, A. S. et al. *Health Introduction to Literature*. Canadian edition. D.C. Heath Canada Limited, 1982. [Short Stories, Drama and Poetry]

ISBN 0669950416

Messenger, W. E. et al. *The Active Stylist*. Prentice Hall, 1981. [Essay]

ISBN 0130036323

Messenger, W. E. *The Canadian Writer's Handbook*. Prentice Hall, 1986. [Handbook]

ISBN 0131132598

Miller, J. E. et al. *The Lyric Potential*. Canadian edition. Gage, 1974. [Poetry]

ISBN 0673102270

Perrine, L. *Story and Structure*. Canadian edition. HBJ-Holt-Saunders, 1987. [Short Stories]

ISBN 0774711957

Shaw, H. *Handbook of English*. Fourth Canadian edition. McGraw-Hill, 1986. [Handbook]

ISBN 0075489864

Winkler, A. C. et al. *Rhetoric Made Plain*. Canadian edition. HBJ-Holt-Saunders, 1987. [Composition and Language]

ISBN 0774711965

English 13

Anderson, C. et al. *Scholastic Composition 4*. Canadian edition. Scholastic Book Services, 1981. [Composition and Language]

ISBN 0590711032

Bell, J. B. *Little English Handbook for Canadians*. Second edition. John Wiley, 1982. [Handbook]

ISBN 0471798924

Cline, J. et al. *New Voices in Literature, Language and Composition 2*. Canadian edition. Ginn, 1982. [Literature and Language]

ISBN 0770208002

Davies, Richard and Glen Kirkland. *Connections I: Imagining*. First edition. Gage, 1981. [Literature and Language]

ISBN 0771511582

Goepfert, Paula S. (ed.). *Communications Handbook*. Nelson, 1982. [Handbook]

ISBN 0176015078

Henderson, J. *Time of Your Life*. Gage, 1977. [Short Stories]

ISBN 0771516576

MacNeill, J. A. *Early September*. Nelson, 1980. [Short Stories]

ISBN 0176007490

McMaster, R. J. *Developing Your Communication Skills*. HBJ-Holt-Saunders, 1978. [Composition and Language]

ISBN 0774711167

English 23

Bell, J. B. *Little English Handbook for Canadians*. Second edition. John Wiley, 1982. [Handbook]

ISBN 0471798924

Cline, J. et al. *New Voices in Literature, Language and Composition 3*. Ginn, 1982. [Literature and Language]

ISBN 0770208010

Davies, Richard and Glen Kirkland. *Connections 2: Relating*. First edition. Gage, 1981. [Literature and Language]

ISBN 0771511604

Eckersley, W. *Quest*. Fitzhenry and Whiteside, 1970. [Poetry]

ISBN 0460943200

Goepfert, Paula S. (ed.). *Communications Handbook*. Nelson, 1982. [Handbook]

ISBN 0176015078

Stevens et al. *Canadian Stories of Action & Adventure*. Gage, 1980. [Short Stories]

ISBN 0771516649

Suhor, C. et al. *Scholastic Composition 5*. Canadian edition. Scholastic Book Services, 1981. [Composition and Language]

ISBN 0590711040

English 33

Bell, J. B. *Little English Handbook for Canadians*. Second edition. John Wiley, 1982. [Handbook]

ISBN 0471798924

Cline, J. et al. *New Voices in Literature, Language and Composition 4*. Ginn, 1982. [Literature and Language]

ISBN 0770208029

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ISBN 0590711059

COMMUNICATIONS 21a-21b

INTRODUCTION

Communications 21a and 21b are offered in module form for 3 credits each. A maximum of 6 credits is available to a student taking modules in the communications courses.

The communications modules subscribe to the major objectives as stated in the secondary language arts program. All modules focus on the basic skills of writing, reading, viewing, listening, speaking and acting as well as providing for student involvement, excitement and enjoyment. In the communication modules, emphasis has been placed on the improvement in writing skills as an ongoing process.

COURSE CONTENT

Choice can be made from fifteen modules. Credit value is shown after each module:

Business Communications (3 or 6 — Part A prerequisite to Part B)
Community Relations Network (3 or 6)
English as a Second Language (6)
Film (3 or 6 — Part A prerequisite to Part B)
The How, What and Why of Writing (3 or 6 — Part A *not* prerequisite to Part B)
Journalism (3 or 6 — Part A prerequisite to Part B)
Language as a Manipulative Device (3 or 6 — Part A prerequisite to Part B)
Language Growth (3 or 6)
Plain Speaking (3)
Purposeful Speaking (3)
Radio (3)
Speeded Comprehension (3)
Television (3 or 6 — Part A prerequisite to Part B)
Thinking: The Core of Communication (3 or 6 — Part A prerequisite to Part B)
Writers' Workshop (3 or 6)

LEARNING RESOURCES

A number of resources are suggested for each module, but no resources have basic status. Refer to the publication *Communications 21a and 21b Literature 21a and 21b*, 1971 for a list of these materials. This publication is available from Alberta Education, Learning Resources Distributing Centre, 12360 - 142 Street, Edmonton, Alberta, T5L 4X9; order number AD23020026. Telephone 427-2767. Fax 422-9750.

LITERATURE 21a-21b

INTRODUCTION

Literature 21a and 21b are offered in module form for 3 credits each. A maximum of 6 credits is available to a student taking modules in the literature courses. Any two literature modules are taken for 3 credits or any four modules for 6 credits. However, student-teacher enthusiasm could lead to one module being developed to produce 3 credits.

The literature modules subscribe to the major objectives as stated in the secondary language arts program. All the modules focus on the basic skills of writing, reading, viewing, listening, speaking and acting as well as providing for student involvement, excitement and enjoyment. In the literature modules, emphasis has been placed on the improvement in writing skills as an ongoing process.

COURSE CONTENT

Choice can be made from twenty modules:

Novels

1. Adventure and Mystery
2. American
3. British
4. Canadian
5. Recent Best Sellers
6. Twentieth Century

Poetry

7. Canadian
8. Modern

Drama

9. Drama in Three Media
10. Television Drama
11. Shakespearean Survey: The Plays
12. Tragedy of Macbeth

Others

13. Africa's Contemporary Authors
14. Canadiana: Short Story and Humour
15. Children's Literature
16. Concepts of the Future
17. Native Canadian Literature
18. The Romantic Mind
19. That Untravelled World: Science Fiction
20. Tolkien, Fantasy and Folk Tale

LEARNING RESOURCES

A number of resources are suggested for each module, but no resources have basic status. Refer to the publication *Communications 21a and 21b Literature 21a and 21b*, 1971 for a list of these materials. This publication is available from Alberta Education, Learning Resources Distributing Centre, 12360 - 142 Street, Edmonton, Alberta, T5L 4X9; order number AD230320026. Telephone 427-2767. Fax 422-9750.

READING 10

RATIONALE

Reading 10 has been designed as a developmental reading course that will meet the need of many high school students for a course that focuses on improving strategies for deriving meaning from print.

Reading 10 is built on recent reading research. It is a program in which the student will be helped to develop strategies to begin independent reading of a variety of print materials, for a range of purposes, in present and future reading situations.

Reading 10 is designed for classroom use; it cannot and should not replace reading clinicians for help with severe reading problems. School systems fortunate enough to have reading specialists and/or clinicians should use their expertise in dealing with remediation for those students who require clinical assistance. Reading 10 is not designed as a remedial reading course to deal with the problems of that part of the student population (2–5%) that have severe reading disabilities. For most high school readers, however, the course offers the opportunity to develop and strengthen reading skills and strategies.

Reading 10 is directed to high school students who wish to strengthen their reading skills in order to become more successful in reading and learning both in and out of school. It is hoped that the course will be made available to high school students having a broad range of abilities. Reading 10 is designed in such a way that it can be taught:

- developmentally, for students of average to better than average reading ability
- correctively, for students with acknowledged reading weaknesses.

Reading 10 is not designed to be a remedial reading course to solve reading problems that need clinical attention.

PHILOSOPHY

Reading 10 presupposes a wide experience of language on the part of the high school student and builds upon that prior experience. Reading is a process by which the student gains meaning from print material, a process that involves the full language capability of the student. Strategies for improving reading can be learned, and, once learned, can be transferred to reading activities both in and out of school.

- A wide range of reading materials should be used, focusing on real reading situations rather than on exercises in isolation.
- The strategies learned should be deliberately applied to real-life reading situations, with special attention to school reading experiences.
- While the focus of the course is on gaining and strengthening skills for deriving meaning from print, the program shares the assumption of the Senior High Language Arts Program that language experiences are interrelated. Thus, speaking, listening,

writing, and possibly viewing should be involved in the teaching and learning activities of this course.

- Reading cannot be separated from the life of the student who is attempting to improve existing reading ability. Poor self-concept is often a stumbling block to improving reading. Every effort should be made to give students positive and successful experiences in reading.
- The classroom atmosphere must be encouraging and supportive of students as persons of worth.
- The student should be helped to bring prior knowledge to reading text, and to transfer learned reading skills and strategies to new reading situations.

GOALS AND OBJECTIVES

The goal of Reading 10 is to improve each student's ability to gain meaning from print materials.

The course should give the student:

- opportunity to become more actively involved in the process of reading; an environment that encourages willingness to make the effort to assess and apply prior knowledge; the ability to deal with the unfamiliar by means of the familiar, and to deal effectively with problems and distractions
- increasing consciousness of one's own purposes in reading, and increasing ability to deal with print material in the light of the purpose for which it is read
- increased independence in reading; ability and desire to take more responsibility for choosing reading material and selecting appropriate strategies for dealing with it
- a heightened awareness of the process by which meaning is gained through reading, with reflective feedback guiding the student's growth
- an increased awareness of special features of print text that aid the reader in deriving meaning, and of the special features of print text reflecting the purposes for which print material may be written and produced
- practise in applying reading strategies to a range of real reading materials
- increased competence in reading, with resultant increased personal confidence
- an enhanced self-concept as reader, learner and person of worth.

STATEMENT OF CONTENT

Concept A

The reader learns that reading can fulfill a variety of important purposes for the reader.

Objectives

The reader:

1. learns that a purpose for reading might be:
   - to gain information about a specific topic or subject, or to acquire broader general knowledge
   - to understand and respond to communications related to job, personal business or social activity
   - to enjoy the recreational and entertainment value of print material.
2. becomes aware of the importance of reading for school success, for success in one's business and social life, and for satisfaction as a leisure activity.
3. learns to transfer strategies for reading to school and other milieus in which reading for information is important; to apply reading skills and strategies in reading situations encountered in business and social life; and to develop the habit of reading for personal satisfaction.

4. increases the level of attention to and active involvement in reading in order to accomplish a purpose.

Concept B

The reader learns to recognize and use prior knowledge and experience of language and life in making meaning from print text.

Objectives

The reader:

1. learns that he or she has relevant prior experience that will help in predicting and confirming meaning, and:
    - links prior personal experience of a subject to what is being read for information
    - links prior personal experience of a business or personal interaction to what is being read for business or social reasons
    - links prior personal experience in life and language to what is being read for pleasure.
2. learns that prior language experience, including known words and recognized language patterns, can assist one in understanding meaning.

Concept C

The reader learns to approach reading with an awareness that the purpose for which print material is written and produced is reflected in its structure, organization and format.

Objectives

The reader:

1. understands that a writer's purpose in informative or utilitarian text may be to explain, inform, teach or persuade; in text intended to be read for pleasure, the writer's purpose may be to entertain, describe, illustrate, satirize, inform, persuade or illuminate.
2. learns to recognize structural signals embedded in the language of text.
3. becomes aware that print material is organized and set forth according to the purpose for which it is intended.
4. learns to recognize and cope with the specific characteristics and demands of print materials that are intended to convey information to the reader, intended to facilitate business and social activities, or designed to be read for personal satisfaction.

Concept D

The reader learns to select and develop reading strategies appropriate to the purpose for which print material is read.

Objectives

The reader:

1. learns that numerous reading strategies have already been developed, and that this repertoire of strategies can be enlarged and refined.
2. expands strategies for dealing with words:
    - develops strategies for learning unfamiliar words
    - learns vocabulary in specialized fields, as necessary
    - learns that words in themselves can be a source of pleasure.
3. expands strategies for dealing with visual and aural cues to meaning:
    - becomes more proficient at reading and interpreting visual accompaniments to print material
    - learns to develop visuals (on paper or in his or her mind) to help gain meaning or pleasure from print text

- develops an ability to reproduce oral equivalents to written language in order to gain or convey meaning or to derive pleasure from the rhythm and sound of written language.

4. expands strategies for adjusting speed and intensity of reading:

   - learns methods of increasing speed and comprehension for the purpose of survey reading, skimming for significant details, or reading for pleasure

   - develops close reading strategies for gaining detailed knowledge, complete understanding, or full appreciation of a passage of text.

Concept E

The reader becomes increasingly independent in locating, selecting, reading and evaluating print materials in order to fulfill specific reading purposes.

Objectives

The reader:

1. learns to gain access to desired reading material from sources available.

2. learns to evaluate material in terms of reader purpose:

   - in reading for information, evaluates material in terms of applicability, completeness and accuracy

   - in reading for business and social purposes, evaluates material for accuracy, completeness, applicability, bias

   - in reading for pleasure, evaluates material in terms of satisfaction, challenge, sustained interest, enlargement of understanding of life.

3. continues to develop self-directed reading patterns by:

   - pursuing desired information

   - tackling reading tasks associated with business and social life

   - widening the range of material read for personal satisfaction and pleasure.

CREDITS

Reading 10 may be offered for 3, 4 or 5 credits.

BASIC LEARNING RESOURCES

Ireland, Robert J. *Reading for Life.* HBJ-Holt-Saunders, 1986.

ISBN 0774712597

ENGLISH AS A SECOND LANGUAGE 10a-10b-10c

INTRODUCTION

The Senior High English as a Second Language (ESL) Program has been developed with the linguistic, cultural and growth time lines necessary for students to increase their vocabulary, abstract thinking, conceptual and complex language skills. The modified learning approaches used in the program allow students time to reach a level of linguistic competence before enrolling in regular programs. Course descriptions of ESL follow.

ENGLISH AS A SECOND LANGUAGE 10a

Basic English is a non-credit course designed to help students develop basic communication skills. It is intended for students who have limited or no experience with spoken English. Students spend as much time in ESL 10a as they require in order to achieve the course objectives.

ENGLISH AS A SECOND LANGUAGE 10b

This language development across the curriculum is a 5-credit course designed to prepare students who are at an intermediate level of English language proficiency for studies in the content area. The course is designed to help students succeed in high school subjects such as social studies, science and mathematics. Students normally enter ESL 10b upon completion of ESL 10a, or upon demonstrating that they have reached an equivalent level of competence, as a result of some other English language learning experience.

ENGLISH AS A SECOND LANGUAGE 10c

This is an English language and literature transition course offered for 5 credits and is intended to meet the communication needs of ESL students who are at the intermediate to advanced level of English language proficiency. ESL 10c is appropriate for students who intend to pursue further studies in English language arts courses at the high school level. The course is intended to introduce the ESL student to English literature, using the communication strands set down by the Alberta curriculum for language arts.

It is suggested that ESL 10a–10b–10c be taken sequentially; however, at the discretion of a local jurisdiction, students may take various combinations of these courses.

There are no basic learning resources for ESL 10a, 10b or 10c at the present time. Support resources have been identified and are listed in the respective curriculum guides.

FRANÇAIS 10-20-30

A new course, Français 10–20–30, has been developed to meet the specific linguistic needs of senior high students registered in a francophone program or school. For francophone students, this new series has replaced Langue et Littérature 10–20–30, since September 1989.

This new course has a double focus: the development of a functional use of the French language in personal, social and academic settings; as well as the acquisition of a language as an effective means to develop and enhance one's identity and pride as a Francophone living in Alberta. As in any language program, language skill development — reading, writing, speaking, listening — is pursued at every grade level to enhance progressively the student's ability to communicate effectively in the French language for a wide variety of purposes. Grammar and vocabulary acquisition are studied within the context of ensuring clear and appropriate communication. The study of French literature — novels, plays, poetry, short stories — allows the students to gain understanding, pride and appreciation for their culture and traditions.

A Grade 12 diploma examination is developed for Français 30.

Specific curricular information and basic learning resources for each course are contained in the following document prepared by the Language Services Branch of Alberta Education: *Français 10–20–30, Programme d'études*.

FRENCH LANGUAGE ARTS 10-20-30

A new French language arts course has been developed to meet the specific linguistic needs of senior high students registered in a French immersion program. Since September 1989, this course has replaced the Langue et Littérature 10–20–30 series.

This new course is focused on the development of a functional use of the French language in both social and academic settings. As in any language program, language skill development — reading, writing, speaking, listening — is pursued at every grade level to enhance progressively the student's ability to communicate effectively in the French language. Grammar and vocabulary acquisition are studied within the context of ensuring clear and appropriate communication. The study of French literature — novels, plays, poetry, short stories — allows the students to gain an understanding of the culture and traditions of French speaking people.

There is no Grade 12 diploma examination developed for French Language Arts 30.

Specific curricular information and basic learning resources for each course are contained in the following document prepared by the Language Services Branch of Alberta Education: *French Language Arts 10–20–30, Programme d'études.*

UKRAINIAN LANGUAGE ARTS

A. PROGRAM RATIONALE AND PHILOSOPHY

Alberta Education's *Language Education Policy for Alberta*, 1988, recognizes that language is the primary form of human communication. The policy states:

> Language is essential to the intellectual development and socialization of children and basic to all learning. Language contributes to personal growth and cultural enrichment. It represents a major means of interpreting reality and expressing the unique experiences of individuals and of different cultural groups. In addition to serving as a source of individual, group and cultural identity, language is the major medium for transmitting knowledge and past achievements and ensuring contact between generations. Languages share many universal features which make all humans similar to each other and distinct from other living things. Skilled and proficient use of language also contributes to economic and social success.

This policy states that the Government of Alberta respects the multicultural nature of the province and acknowledges the wishes of parents who belong to a variety of cultural groups. Therefore, Alberta Education provides opportunities for students to learn a variety of languages. The Ukrainian bilingual program provides one such opportunity.

The Ukrainian bilingual program serves the educational needs of native speakers of Ukrainian and the needs of students who speak other languages and wish to learn Ukrainian.

For Ukrainian-speaking children, either born in Canada or abroad, the bilingual program is a means of developing and maintaining their sense of self-worth and strengthening their psychological ties and emotional bonds with their families and their community. The program facilitates their transition from home to the school, especially in the early years.

For children who do not speak Ukrainian, whether they are of Ukrainian background or not, the program provides opportunities for personal development and possibly the economic advantages that language learning can provide. As well, students in bilingual programs receive subtle metalinguistic, academic and intellectual benefits.

Following the government's policy statement in *Secondary Education in Alberta*, 1985, a review was begun of the Ukrainian Language Arts Program for Grades 1 through 12. The purposes of this review included ensuring that the developmental needs of students are being addressed and that there is continuity in the program from elementary school through junior and senior high school. At that time, Alberta Education also noted the need for a basic learning resource to complement the program and make its implementation feasible.

The result of that review and follow-up work is this revised, updated and articulated Ukrainian Language Arts Program of Studies (ECS–Grade 12) and accompanying basic learning resources. The program and resources were developed by Alberta Education. The resources are being published by the Ukrainian community.

PRINCIPLES

The fundamental principles which follow relate to the nature of language, child development and the process of language learning, and provide the theoretical framework for the Ukrainian Language Arts Program.

- The acquisition and development of Ukrainian language arts skills broaden students' views, add new dimensions and flexibility to thinking through exposure to a new cultural experience and value system, and provide a new perception of the world as well as an understanding of multiculturalism in Canada.
- Language is used to explore ideas and experiences, to construct meaning and to communicate our understandings.
- A balanced language arts program promotes students' all-round development (cognitive, affective, psychomotor) and assists them in coping with developmental changes by providing opportunities for social, emotional, moral, intellectual and creative growth.
- A successful Ukrainian Language Arts Program harmoniously reflects the culture of the Ukrainian community, as language and culture are closely interconnected.
- In language use, viewing, listening, speaking, reading and writing are interrelated.
- Students need to acquire the ability to vary their Ukrainian language appropriately when dealing with different people in different situations for different purposes and gain confidence in using Ukrainian in a range of functions and contexts.
- Experience and language are closely interwoven in all learning situations.
- Language expansion, especially oral language development, primarily occurs through active involvement in meaningful situations. The development of language skills, which is tied to the development of cognitive/thinking processes, is facilitated through contextual support and teacher mediation.
- Reading is an interaction between the reader (with his or her experiences, expectations and personal views) and the text. Students' experiences with reading and literature facilitate language acquisition, lead to personal growth and foster a greater appreciation of culture and cultural differences among community members.
- Students' personal responses to what they have read help them relate the context to their own experience and cause them to reflect upon what the selection means to them, in whole or in part.
- Through writing, as through speaking, students can develop, express and share thought, emotion and experience. Through personal writing, the child clarifies his or her own values, and shares them and compares them with those of others. Through personal writing, students further develop thoughts, emotions and experiences obtained through viewing, listening, speaking and reading, and become sensitive to different purposes and audiences in communicating.
- The use of technology in the classroom in practical, purposeful language-learning situations fosters language development and language use.
- Evaluation is an ongoing part of instruction.
- Although the surface aspects of different languages (such as pronunciation and fluency) are clearly separate, there is an underlying cognitive/academic proficiency that is common across languages. This common underlying proficiency makes possible the transfer of cognitive/academic or literacy-related skills across languages. Thus, first and second language skills are interdependent; that is, when skills are developed in one language, they will transfer to another.

B. GENERAL LEARNER EXPECTATIONS

The general learner expectations describe, in broad terms, what knowledge, skills and attitudes students should be able to demonstrate as a result of their learning experiences in Ukrainian language arts.

The expectations for this program are:

1. students will have the ability and desire to read, listen and view for a variety of purposes
2. students will express thoughts and feelings for a variety of purposes and in a variety of situations
3. students will respond to literature and other art forms
4. students will appreciate and participate in Ukrainian culture
5. students will use the language as a medium for cognitive, affective and social learning
6. students will have the knowledge of the language and the skills necessary to interpret and express ideas.

C. SPECIFIC LEARNER EXPECTATIONS

The specific learner expectations (see charts that follow) expand on each of the general learner expectations. They are explicit statements about what students are expected to achieve. The twenty-four specific expectations identified, with variations for Grades 3, 6, 9 and 12 levels, serve as benchmarks to indicate stages in students' development of their language and cultural proficiency.

To demonstrate growth in proficiency at various grade levels, the expectations are formulated in the context of expanding knowledge, skills and attitudes. The specific expectations show movement from the concrete to the abstract, from controlled activity to spontaneous expression, from teacher direction to self-direction and self-monitoring, from focus on the self to one's peers and society at large.

REQUIRED/ELECTIVE COMPONENTS

The instructional time for the secondary portion of the Ukrainian Language Arts Program, Grades 7 to 12, is allocated as follows:

- 80% required component
- 20% elective component.

The **required component** of Ukrainian language arts consists of all expectations of the program. All expectations are mandatory for all students.

The **elective component** permits the teacher to:

- remediate or reinforce concepts, skills and attitudes in the required component
- extend or enrich the program by introducing additional concepts, skills and attitudes appropriate to students' interests and their proficiency in Ukrainian language and culture
- effectively individualize instruction to meet the needs of native speakers of Ukrainian and students who are learning Ukrainian as a second language.

LEARNER EXPECTATIONS — UKRAINIAN LANGUAGE ARTS (ECS - GRADE 12)

Ukrainian Language Arts General Learner Expectation 1: **Students will have the ability and desire to read, listen and view for a variety of purposes.**

Expectation Group	Grade 3	Grade 6	Grade 9	Grade 12
	Students are expected to:	*Students are expected to:*	*Students are expected to:*	*Students are expected to:*
1.1	• obtain information from others and from simple reference materials	• obtain specific information from teacher-selected sources	• obtain information from a variety of authentic sources in structured situations	• independently obtain information from a variety of authentic sources
1.2	• recognize in familiar situations their own opinions and feelings and those of others	• recognize how one expresses personal feelings, ideas and opinions	• recognize ideas, opinions and feelings about social issues that are relevant to them	• understand ideas, opinions and feelings related to current issues
1.3	• recognize persuasive words and phrases in familiar language	• recognize persuasive messages in language	• recognize the effectiveness of a message containing persuasive elements	• understand obvious and subtle persuasive elements in language
1.4	• follow a short series of oral or written directions or simple procedures	• follow a series of oral or written directions, or a procedure	• understand written, oral and visual instructions to carry out a complex task, with teacher or peer assistance	• independently use written instructions and instructional diagrams in following a procedure
1.5	• enjoy the creative elements of language.	• recognize and enjoy creative or imaginative elements of language.	• understand how imaginative techniques contribute to effective expression.	• use imaginative techniques that contribute to effective expression.

Ukrainian Language Arts General Learner Expectation 2: **Students will express thoughts and feelings for a variety of purposes and in a variety of situations.**

Expectation Group	Grade 3	Grade 6	Grade 9	Grade 12
	Students are expected to:	*Students are expected to:*	*Students are expected to:*	*Students are expected to:*
2.1	• present information of personal interest in the classroom	• effectively organize and present information of interest to their peers	• convey information on personal and societal topics in structured situations	• effectively organize and present to various audiences information of general interest
2.2	• share personal opinions, ideas and feelings	• share feelings; share and support ideas and opinions	• reflect upon and share ideas, opinions and feelings about personal and social issues	• share ideas, feelings and opinions, using appropriate form and tone
2.3	• elicit help or cooperation from others to fulfill personal needs	• use persuasive elements in language	• use persuasive elements to suit intent	• determine issues of relevance to their peers and others and present them, using appropriate persuasive techniques
2.4	• present simple oral directions and procedures	• present directions and procedures orally and in writing	• communicate concise instructions in concrete, structured activities	• independently write or orally present a course of action of relevance to their peers or others
2.5	• use language creatively in structured situations.	• use teacher-identified techniques to enhance expression.	• use selected imaginative techniques to contribute to effective expression.	• use a variety of techniques to enhance expression.

Ukrainian Language Arts General Learner Expectation 3: **Students will respond to literature and other art forms.**

Expectation Group	Grade 3	Grade 6	Grade 9	Grade 12
	Students are expected to:	*Students are expected to:*	*Students are expected to:*	*Students are expected to:*
3.1	• respond personally to literature of interest to children	• respond personally to a variety of literary forms	• interpret personally and begin to analyze works of art and literature	• respond critically to a variety of literary forms
3.2	• use literature and other art forms to reflect creatively upon personal experience	• use literature and other art forms to reflect creatively upon experiences of general interest	• use literature and other art forms to reflect creatively upon issues and experiences of relevance to themselves and their peers	• use literature and other art forms to reflect upon issues of universal interest
3.3	• recognize the presence of Ukrainian literature and arts in their immediate environment	• recognize the presence of Ukrainian literature and arts in Canada	• recognize the literary and artistic forms that are characteristic of Ukrainian culture	• recognize the contribution of Ukrainian culture to world literature and the arts
3.4	• know names of some Ukrainian writers and artists.	• know basic facts about some important Ukrainian writers and artists.	• recognize that there is a relationship between the lives and times of authors or artists and their works.	• recognize the characteristic styles of writers or artists.

Ukrainian Language Arts General Learner Expectation 4: Students will appreciate and participate in Ukrainian culture.

Expectation Group	Grade 3	Grade 6	Grade 9	Grade 12
	Students are expected to:	*Students are expected to:*	*Students are expected to:*	*Students are expected to:*
4.1	• recognize and be sensitive to characteristic cultural features	• recognize and be sensitive to differences or similarities in cultures	• identify similarities and differences in world view of Ukrainians and other cultural groups	• understand the impact of cultural characteristics on society
4.2	• recognize the elements of the lifestyle of Ukrainians in their immediate environment and personal experience	• recognize the contribution of the lifestyle of Ukrainians to the wider community	• recognize the contribution of Ukrainian culture to Canadian and Western civilization	• recognize that cultural diversity is characteristic of all societies
4.3	• exhibit culturally appropriate behaviour in structured situations.	• independently exhibit culturally appropriate behaviour in familiar situations.	• know about behaviours appropriate to Ukrainian culture and be able to apply this knowledge beyond the classroom.	• be able to function and contribute to the life of the cultural community in the Canadian multicultural context.

Ukrainian Language Arts General Learner Expectation 5: **Students will use the language as a medium for cognitive, affective and social learning.**

Expectation Group	Grade 3	Grade 6	Grade 9	Grade 12
	Students are expected to:	*Students are expected to:*	*Students are expected to:*	*Students are expected to:*
5.1	• acquire concepts and develop learning strategies in subjects taught in Ukrainian in structured situations	• practise a variety of learning strategies to acquire concepts in structured situations	• recognize strategies that they apply to learning	• consciously choose and use strategies appropriate to the learning situation
5.2	• demonstrate confidence by using the Ukrainian language in structured situations	• demonstrate confidence by willingly interacting in the Ukrainian language with peers and teachers	• demonstrate confidence by using the Ukrainian language at school and in the local community	• demonstrate confidence by taking advantage of opportunities to use the Ukrainian language
5.3	• be aware of the benefits of a bilingual education.	• demonstrate pride in the uniqueness of their bilingual educational experience.	• demonstrate a personal understanding of the lifelong value of a bilingual and multicultural education.	• apply the knowledge and skills gained through bilingual education.

Ukrainian Language Arts General Learner Expectation 6: **Students will have the knowledge of the language and the skills necessary to interpret and express ideas.**

Expectation Group	Grade 3	Grade 6	Grade 9	Grade 12
	Students are expected to:	*Students are expected to:*	*Students are expected to:*	*Students are expected to:*
6.1	• express thoughts orally and in writing, using accurate, simple sentences	• express accurately thoughts of personal interest, orally or in writing, using simple and complex sentences	• use several connected sentences to produce accurately a cohesive discourse	• formulate thoughts in extended discourse using a variety of connective devices
6.2	• use correct word forms and word order to formulate simple messages of personal interest in structured situations	• with teacher guidance, use correct word forms and word order to formulate messages of personal interest	• monitor effectively, with teacher and peer input, the correctness of word forms and word order	• monitor independently the correctness of word forms and word order
6.3	• understand implicitly the meaning carried by word form, word order and individual words in simple contextualized oral and written statements	• use their knowledge of word forms, word order and individual words to understand simple narratives and conversations	• use effectively knowledge of word forms, word order and individual words to obtain and verify meaning from a variety of written and oral discourses	• independently make effective use of word forms, word order and individual words to obtain and verify meaning while listening to or reading authentic language
6.4	• use learned vocabulary to convey meaning.	• expand vocabulary to convey meaning on topics of personal and general interest.	• employ known vocabulary and access needed vocabulary from sources identified by the teacher.	• ensure the precision of messages by independently accessing needed vocabulary.

D. BASIC LEARNING RESOURCES

A basic learning resource, NOVA (1–12), has been developed by Alberta Education and is being published by the Ukrainian Language Education Centre of the Canadian Institute of Ukrainian Studies at the University of Alberta. Plans are to make NOVA available for purchase through Alberta Education's Learning Resources Distributing Centre according to the following schedule:

NOVA 1 – December 1990
NOVA 2, 7 – September 1991
NOVA 3, 8, 10 – September 1992
NOVA 4, 9, 11 – September 1993
NOVA 5, 6, 12 – September 1994

MATHEMATICS

CONTENTS

Mathematics 10–20–30

Mathematics 31

Mathematics 13–23–33

Mathematics 14–24

MATHEMATICS
10-20-30

MATHEMATICS 10–20

The revised Mathematics 10 and Mathematics 20 programs of study became mandatory in September, 1989 and September, 1990 respectively and have been distributed.

MATHEMATICS 30

The Mathematics 30 course of study statement is currently being validated.

Distribution to the schools of the approved Mathematics 10–20–30 combined package will be forthcoming in June, 1991.

MATHEMATICS 31

A new course outline for Mathematics 31 was approved for use on a mandatory basis, effective the 1984–1985 school term. Commencing with the 1985–1986 school term, Mathematics 30 formed the prerequisite for Mathematics 31. Schools may register students in Mathematics 30 and Mathematics 31 concurrently; that is, in the same term.

GENERAL OBJECTIVES

The general objectives of the high school mathematics program apply to Mathematics 31. The following is a statement of the more specific objectives of this course.

1. To develop an understanding of the properties of functions and their role in many different areas of mathematics.
2. To increase the students' awareness of the scope of mathematics.
3. To prepare the student for further courses in calculus, vector analysis and related fields.
4. To develop skills that will increase students' ability to simplify algebraic and numeric expressions.
5. To assist students to see that the mathematics of calculus and vectors have many practical applications.

CORE OBJECTIVES

I. Core Component

CALCULUS (50%)

A. Introduction to Calculus

1. Maintain previously developed skills in finding an equation of a line.

2. Define secant line.

3. Determine the equation of a secant line.

4. Define tangent line.

5. Define the limit of an infinite sequence.

6. Determine the limits of an algebraic function as the independent variable approaches a fixed value.

7. Verify the following limit theorems:

   7.1 $\underset{x\to a}{\text{limit}}\ k = k$, k is a constant

   7.2 $\underset{x\to a}{\text{limit}}\,[f(x) \pm g(x)] = \underset{x\to a}{\text{limit}}\ f(x) \pm \underset{x\to a}{\text{limit}}\ g(x)$

   7.3 $\underset{x\to a}{\text{limit}}\,[f(x)\ g(x)] = \left[\underset{x\to a}{\text{limit}}\ f(x)\right]\left[\underset{x\to a}{\text{limit}}\ g(x)\right]$

   7.4 $\underset{x\to a}{\text{limit}}\left[\dfrac{f(x)}{g(x)}\right] = \dfrac{\underset{x\to a}{\text{limit}}\ f(x)}{\underset{x\to a}{\text{limit}}\ g(x)}$ (if $\underset{x\to a}{\text{limit}}\ g(x) \neq 0$)

   7.5 $\underset{x\to a}{\text{limit}}\ k\,[f(x)] = k\left[\underset{x\to a}{\text{limit}}\ f(x)\right]$

B. Derivatives of Algebraic Relations

1. Define the derivative of a function in terms of limits.

2. Become familiar with a variety of derivative notations.

3. Develop the derivatives of the following functions from first principles using limits:

   3.1 linear
   3.2 quadratic
   3.3 cubic
   3.4 reciprocal.

4. Determine the derivatives of algebraic functions by generalizing the results obtained from first principles.

5. Determine the slopes of tangent lines to functions.

6. Determine the equations of tangent lines to functions.

7. Derive the:

   7.1 power rule
   7.2 product rule for derivatives
   7.3 quotient rule for derivatives.

8. Apply the chain rule, power rule, product rule and quotient rule.

9. Determine the derivatives of relations.

10. Determine the equations of tangent lines to relations.

C. Applications of Derivatives

1. Maxima and minima:

   1.1 Maintain previous skills in solving polynomial equations.
   1.2 Identify the domains for which the first derivative is greater than zero, less than zero or equal to zero.
   1.3 Define and identify maxima and minima, using first and second derivatives.
   1.4 Identify formulae for perimeter, area and volume of various plane and solid figures.
   1.5 Solve applied problems.

2. Graphing:

   2.1 Maintain previous skills of finding x and y intercepts of functions.
   2.2 Find the coordinates of any point where a relative maximum or minimum occurs.
   2.3 Define point of inflection.
   2.4 Find the coordinates of any points of inflection.
   2.5 Sketch a graph of polynomial functions identifying x and y intercepts, relative maxima, minima and any points of inflection.

3. Motion problems:

   3.1 Define average velocity and solve related problems.
   3.2 Define instantaneous velocity using limits and derivatives.
   3.3 Define acceleration and solve related problems.
   3.4 Define instantaneous acceleration using limits and derivatives.
   3.5 Solve applied motion problems using differentiation.

4. Related rate problems:

   4.1 Use the chain rule for the differentiation of a function with respect to a variable not in the function.
   4.2 Interpret a derivative as a rate of change of one variable with respect to another.
   4.3 Solve applied problems, using rates.

D. Integration

1. Define integration.
2. Find the family of curves whose first derivative has been given.
3. Find a specific member of a family of curves, given the derivative and the coordinates of a point on a curve.
4. Solve applied motion problems.
5. Define and evaluate definite integrals.
6. Determine the area between a curve and the x-axis over a given domain:
    - 6.1 if f(x) has a constant sign in a given domain
    - 6.2 if f(x) changes sign in a given domain.
7. Determine the area between two curves over a given domain.
8. Determine the area between two intersecting curves.

VECTORS

A. Geometric Vectors and Their Application

1. Maintain previous skills in trigonometry.
2. Define, sketch and apply three-dimensional geometric relationships.
3. Define and/or illustrate:
    - 3.1 geometric vectors
    - 3.2 equivalent vectors
    - 3.3 collinear and coplanar vectors
    - 3.4 vector addition:
        - 3.4.1 for collinear vectors
        - 3.4.2 for non-collinear vectors
    - 3.5 inverse vectors
    - 3.6 scalar multiplication
    - 3.7 vector subtraction.
4. Develop vector notation.
5. Illustrate graphically the following algebraic properties of vector addition:
    - 5.1 commutative property
    - 5.2 associative property
    - 5.3 identity property
    - 5.4 inverse property.

6. Apply the algebraic properties of vector addition.

7. Apply the properties of multiplication by a scalar.

8. Apply vector addition to related problems, including definition of resultant and equilibrant.

9. Define and apply resolution of vectors into rectangular components.

10. Define and apply linear combinations of geometric vectors.

B. Algebraic Vectors and Their Application

1. Maintain previous skills in plotting points and finding the distance between two points in a plain.

2. Plot points and find the distance between two points in a three-dimensional system.

3. Define:

    3.1 algebraic vectors
    3.2 equivalent algebraic vectors
    3.3 zero vectors
    3.4 unit vectors.

4. Define the following concepts:

    4.1 addition and subtraction of algebraic vectors
    4.2 scalar multiplication of algebraic vectors.

5. Solve equations involving addition and subtraction of algebraic vectors and scalar multiplication of algebraic vectors.

6. Express two- and three-dimensional vectors in algebraic form.

7. Solve problems related to algebraic vectors, given initial points and terminal points.

8. Define collinearity of algebraic vectors in terms of scalar multiples.

9. Solve related problems involving collinear algebraic vectors.

10. Define coplanar vectors in terms of linear combinations.

11. Solve problems related to coplanar vectors.

12. Find the length of two- and three-dimensional vectors.

C. Dot Production

1. Define dot production for algebraic vectors.

2. Simplify and/or evaluate expressions, using the dot product of algebraic vectors.

3. Verify that the dot product for geometric vectors is equivalent to the dot product of their algebraic equivalent.

4. Solve problems involving the angle between vectors.

5. Solve problems involving perpendicular (orthogonal) vectors.

6. Define the projection of one vector onto another.

7. Solve problems related to the projection of one vector onto another.

8. Resolve a vector into two perpendicular components, one of which is parallel to a given vector.

9. Define work in terms of dot product, and solve related problems.

II. Elective Component

The following topics are suggested as possible elective topics for Mathematics 31. Teachers may choose one or more of these topics, or incorporate their own ideas. The elective is a mandatory component (approximately 20%) of the Mathematics 31 course.

Topics:
Volumes of Revolution
Trigonometric Extensions
Polar Coordinates
Systems of Linear Equations*
Calculus of Logarithmic Functions
Calculus of Trigonometric Functions
Matrices and Linear Transformations

Outlines and suggested learning resources for each of the elective topics listed are provided in the *Mathematics 31 Curriculum Guide*, 1984.

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* This elective topic should be chosen only after Trigonometric Extensions has been completed.

BASIC LEARNING RESOURCES

Elliott, H. A. et al. *Calculus, Complex Numbers and Polar Co-ordinates.* Toronto, ON: Holt, Rinehart and Winston of Canada, Limited, 1980.

ISBN 0039201554

Elliott, H. A. et al. *Math 31.* Holt, Rinehart and Winston of Canada, Limited, 1984. [Includes material from Calculus and Vectors texts above.]

ISBN 0039218503

Elliott, H. A. et al. *Vectors, Matrices and Algebraic Structures.* Toronto, ON: Holt, Rinehart and Winston of Canada, Limited, 1980.

ISBN 0039201562

MATHEMATICS
13-23-33

MATHEMATICS 13–23

The revised Mathematics 13 and Mathematics 23 programs of study became mandatory in September, 1989 and September, 1990 respectively and have been distributed.

MATHEMATICS 33

The Mathematics 33 course of study statement is currently being validated.

Distribution to the schools of the approved Mathematics 13–23–33 combined package will be forthcoming in June, 1991.

MATHEMATICS
14-24

A. PROGRAM RATIONALE AND PHILOSOPHY

To set goals and make informed choices, students need an array of thinking and problem-solving skills. Fundamental to this is an understanding of mathematical techniques and processes that will enable them to apply the basic skills necessary to address everyday mathematical situations, as well as acquire higher order skills in logical analysis and methods for making valid inferences.

A knowledge of mathematics is essential for a well-educated citizenry. However, the need for and use of mathematics in the life of the average citizen is changing. Emphasis has shifted from the memorization of mathematical formulae and algorithms toward a more dynamic view of mathematics as a precise language, used to reason, interpret and explore. There continues to be a need for the logical development of concepts and skills as a basis for the appropriate use of mathematical information to solve problems. Moreover, the use of available technology along with techniques such as estimation and simulation, incorporated with more traditional problem-solving techniques, are the tools with which mathematical problems are solved.

Change in the way in which mathematics is used is necessitating a concurrent change in the emphases of mathematics education. Students need an expanded list of fundamental concepts but will also need to understand the ideas that make up those concepts and how they are related. They also require a familiarity with their applications. Most important, students have to be able to solve problems using the mathematical processes developed, and be confident in their ability to apply known mathematical skills and concepts in the acquisition of new mathematical knowledge. In addition, the ability of technology to provide quick and accurate computation and manipulation, to enhance conceptual understanding and to facilitate higher order thinking, should be recognized and used by students.

The majority of students who enter senior high school exhibit mainly concrete operational behaviours with regard to mathematics. It is recognized that senior high school mathematics courses include many abstract understandings that students are expected to acquire. The course content of the Senior High School Mathematics Program is cognitively appropriate for the students and should be presented in a way that is consistent with the students' ability to understand.

The Senior High School Mathematics Program includes the course sequences Mathematics 16-26, 14-24, 13-23-33 and 10-20-30, plus Mathematics 31. Transfer by students among courses of different sequences is possible. The course sequences commensurate with differing abilities, interests and aspirations, are designed to enable students to have success in mathematics. As well, the mathematics program reflects the changing needs of society, and provides students with the mathematical concepts, skills and attitudes necessary to cope with the challenges of the future.

The Mathematics 14–24 sequence is designed for students whose needs, interests and abilities focus on basic mathematical understanding. The emphasis is on the acquisition of practical life skills and students are provided with opportunities to improve their skills in working with mathematics. Students who successfully complete Mathematics 24 may choose to enter directly into a job or select from a limited number of trade programs. The mathematics requirement for the General High School Diploma consists of two courses in mathematics; e.g., Mathematics 14 and Mathematics 24.

B. GENERAL LEARNER EXPECTATIONS

Upon conclusion of their senior high mathematics education, students will be expected to be mathematically literate. **Mathematical literacy** refers to students' ability and inclination to manage the demands of their world through the use of mathematical concepts and procedures to communicate, reason and solve problems. More specifically, *students will be expected to:*

- have achieved understanding of the basic mathematical concepts, and developed the skills and attitudes needed to become responsible and contributing members of society
- apply basic mathematical skills and concepts in practical situations
- have developed the skills, concepts and attitudes that will ensure success in the mathematical situations that occur in future educational endeavours, employment and everyday life
- have developed the skills, concepts and attitudes that will enable the acquisition of mathematical knowledge beyond the conclusion of secondary education
- have developed critical and creative thinking skills
- be able to communicate mathematical ideas effectively
- understand how mathematics can be used to investigate, interpret and make decisions in human affairs
- understand how mathematics can be used in the analysis of natural phenomena
- understand the connections and interplay among various mathematical concepts and between mathematics and other disciplines
- understand and appreciate the positive contributions of mathematics, as a science and as an art, to civilization and culture.

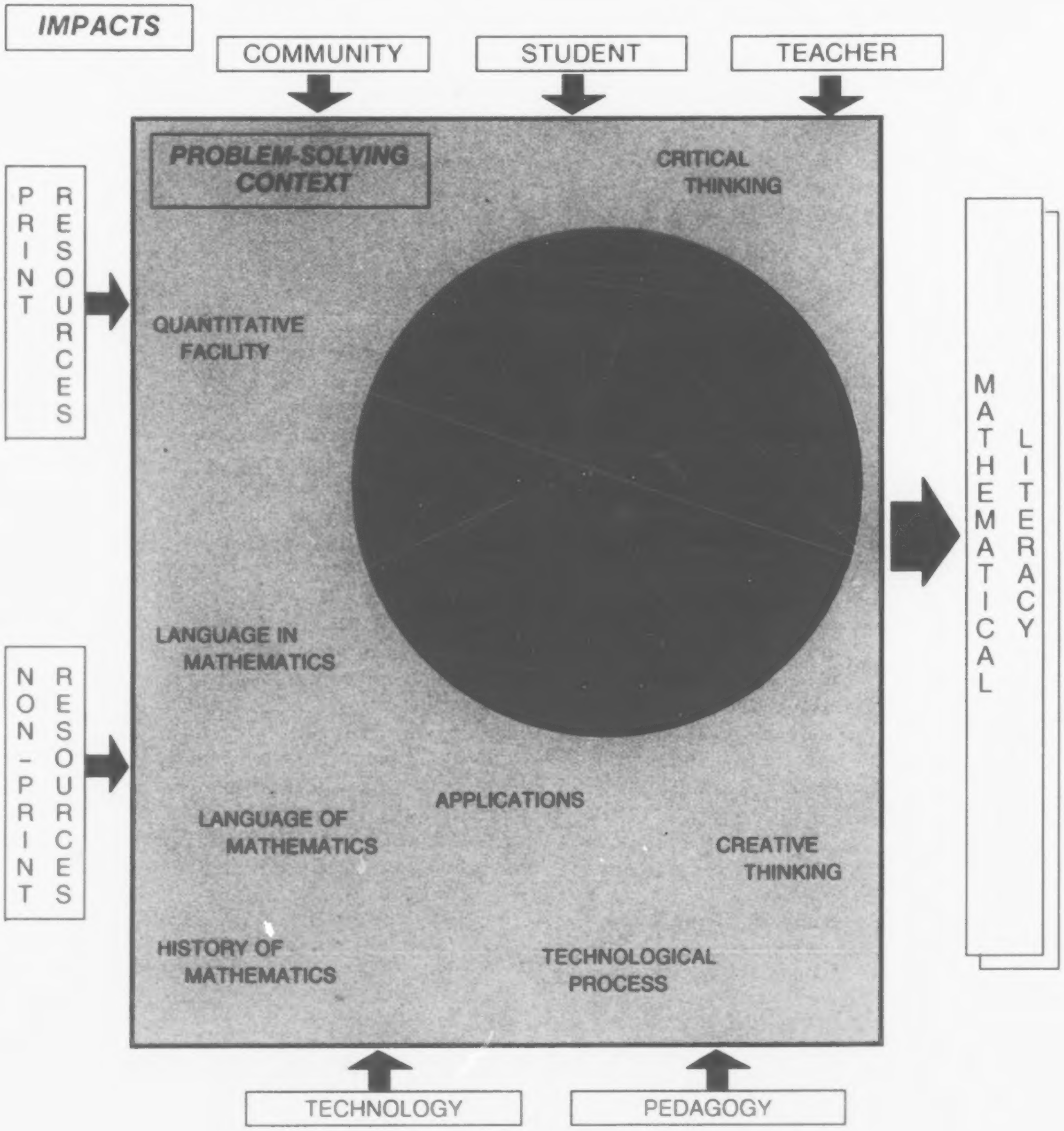
A General Model for Mathematical Literacy for Senior High School Programs is presented on the following page and outlines the factors that affect what and how students learn as they become mathematically literate. The model is fluid in that the content can be learned within a problem-solving context that engages any of a number of vehicles as the learning focus. At the same time, the students involved in the learning situation are affected in what and how they learn by forces that have impact upon them.

The **Content** of the Senior High School Mathematics Program is the body of knowledge that is to be acquired by students. In the various senior high school mathematics courses, it is made up of topics that can be categorized into one or more of the listed strands.

Within each course in the Senior High School Mathematics Program, students will focus on problem solving. The **Problem-Solving Context** refers to the instructional emphases within which the specific content expectations can be acquired. The various entries indicated within the model suggest processes that belong to the problem-solving context and may be used by students as vehicles for learning the content.

The **Impacts** on the problem-solving context are those skills, attitudes and experiences that are possessed by the students and teachers involved, as well as the resources they may use throughout the learning process. They include the influence exerted by the culture and beliefs of the community as reflected by the school. The effectiveness of the context in enabling a student to acquire the content is dependent upon the skillful management by the teacher of those items that impact upon a student's learning.

A GENERAL MODEL FOR MATHEMATICAL LITERACY FOR SENIOR HIGH SCHOOL PROGRAMS


IMPACTS
COMMUNITY
STUDENT
TEACHER
PRINT RESOURCES
NON-PRINT RESOURCES
PROBLEM-SOLVING CONTEXT
CRITICAL THINKING
QUANTITATIVE FACILITY
LANGUAGE IN MATHEMATICS
APPLICATIONS
LANGUAGE OF MATHEMATICS
CREATIVE THINKING
HISTORY OF MATHEMATICS
TECHNOLOGICAL PROCESS
TECHNOLOGY
PEDAGOGY
MATHEMATICAL LITERACY

C. SPECIFIC LEARNER EXPECTATIONS

PROGRAM ORGANIZATION

The major part of the content of each senior high school mathematics course consists of topics required of all students who take the course. The required content comprises 80% of the course and contains the concepts, skills and attitudes that all students are expected to acquire. As well, the required portion of all courses includes specific expectations in regard to problem solving and the use of technology.

Each course includes a compulsory component comprising 20% of the course, made up of elective material that is consistent with the content and expectations of the required component. The purpose of the elective is to provide for enrichment, remediation, or innovative or experimental presentations or activities. It is not intended to provide acceleration or advanced placement. However, horizontal enrichment and extension is appropriate and students should have access to elective material that serves their individual needs and interests.

Mathematics 14 is a 5-credit course. Mathematics 24 is a 3- or a 5-credit course organized into twelve units within five themes. It is important that teachers address each of the five themes as well as provide for the specific needs of their individual classes. The required component of Mathematics 24 courses offered for 3 credits will be made up of attitudes, problem solving, numeration, and geometry and measurement as well as six units, including one unit from each of the five themes, plus any one other unit selected from any of the themes, chosen according to the needs and interests of the students in the class. The required component of Mathematics 24 courses offered for 5 credits will be made up of attitudes, problem solving, numeration, and geometry and measurement as well as ten units, including one unit from each of the five themes, plus any five other units chosen from any of the themes. The elective component in Mathematics 24 for 3 or 5 credits will be in addition to the above. The elective component may include any units not used in the required component, chosen according to the needs and interests of the students in the class.

The themes and the units within them are:

WORK
- Income
- Income Tax

BANKING
- Personal Banking
- Consumer Credit

TRANSPORTATION
- Purchasing a Vehicle
- Operating a Vehicle
- Travelling

ACCOMMODATION
- Renting and Purchasing a Home
- Mortgage and Household Insurance
- Building, Decorating and Furnishing

COST OF INDEPENDENCE
- Budgets and Getting Value for Money Spent
- Life and Health Insurance

Evaluation of students in the Senior High School Mathematics Program will involve assessment of the level of achievement of all of the learner expectations, including concepts, skills and attitudes, as well as problem solving and technological expectations. For more information regarding evaluation, consult the appropriate teacher resource manuals.

PROGRAM STRUCTURE

At the beginning of each course is a list of attitude expectations. These attitudes embody a mathematical attitude or frame of mind for a student to view the world. The attitude expectations should be woven into the fabric of the entire course.

Following this are the problem-solving expectations that outline a variety of procedures, strategies, skills and checking techniques for solving problems. Because a major purpose for studying mathematics is to learn to solve problems, problem-solving expectations occur throughout all areas of the specific learner expectations. Students must have the background skills and knowledge necessary to achieve these expectations successfully, using problem-solving techniques.

The units of the course are broken into a number of concepts. A concept is an abstract or general idea about specific instances that have common properties or an identifiable relationship to one another. The concepts are presented as mathematical definitions or theorems, or as statements of mathematical ideas or abstractions. In the course of studies, concepts are stated as "*Students will be expected to* demonstrate an understanding that . . ."

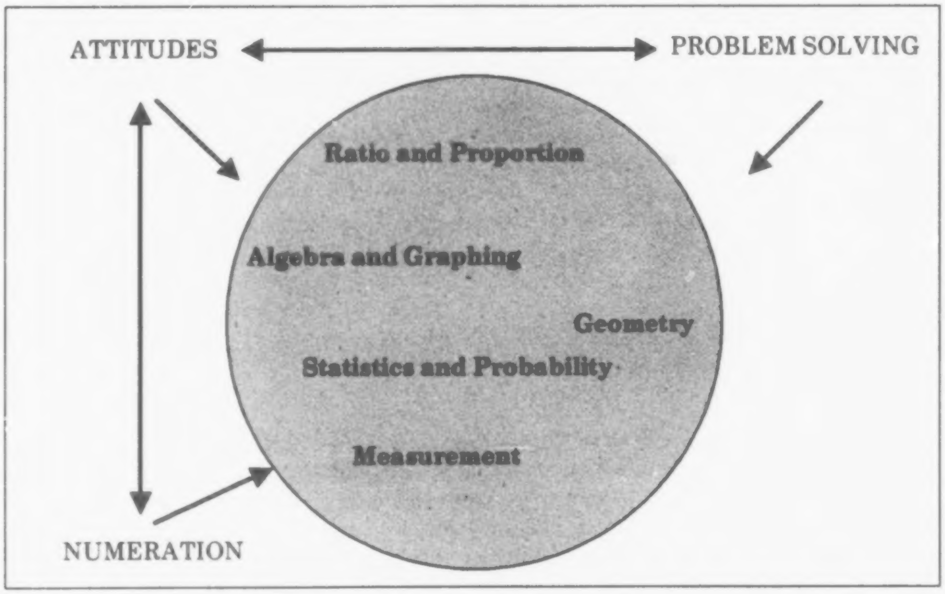
Supporting each concept are a number of skills. Skills are intellectual or physical capabilities that will be developed within the context of the particular concept. In the course of studies, skills are stated as "*Students will be expected to* . . ."

Skills specifically related to the use of technology identify areas in which calculators and/or computer technology are applied by students as tools to be used for calculation, manipulation or graphing, or to aid in the analysis of problems. Technological expectations are defined explicitly throughout the learner expectations. In many cases, a particular technology is indicated for investigation or analysis. It is in these situations that the use of technology enables students to engage in critical and creative thinking and problem solving.

Students will be expected to learn how and when to use a calculator and have a demonstrated proficiency in estimation and mental arithmetic. To use calculators effectively, they must be able to judge the reasonableness of an answer and understand the importance of making a judgment about the result of a calculation.

373

MATHEMATICS 14 PROGRAM STRUCTURE


ATTITUDES
PROBLEM SOLVING
Ratio and Proportion
Algebra and Graphing
Geometry
Statistics and Probability
Measurement
NUMERATION

ATTITUDES

1. *Students will be expected to* demonstrate an attitude associated with mathematical literacy. In particular, *students will be expected to*:

   1.1 be confident in their mathematical knowledge and in their ability to acquire new knowledge
   1.2 demonstrate persistence, resolve, flexibility and ingenuity in finding the solution to problems
   1.3 develop intellectual curiosity and openness to new ideas, insights and change in the pursuit of mathematical knowledge
   1.4 exhibit an attitude of curiosity and spontaneity and appreciate creativity and innovation in representing situations mathematically
   1.5 be critical and constructive in approaching new ideas and new processes
   1.6 be aware of the importance of communication skills in mathematics
   1.7 appreciate the usefulness of computational competence, mathematical processes and problem-solving skills that are used in the decision-making and modeling processes in our society
   1.8 appreciate the contributions of mathematics to our culture and civilization.

PROBLEM SOLVING

1. *Students will be expected to* demonstrate an understanding of the variety of procedures that can be used to understand problems. In particular, *students will be expected to*:

    1.1 read the problem thoroughly
    1.2 identify and clarify key components
    1.3 restate the problem, using familiar terms
    1.4 evaluate the given information as to sufficiency and relevancy
    1.5 interpret pictures, charts and graphs
    1.6 determine hidden assumptions
    1.7 ask relevant questions
    1.8 identify given, needed and wanted information
    1.9 diagram or model the problem situation
    1.10 use suitable notation
    1.11 determine valid inferences
    1.12 simulate a problem situation
    1.13 formulate situations into identifiable problems.

2. *Students will be expected to* develop a variety of strategies for use in the solution of mathematical problems. In particular, *students will be expected to*:

    2.1 conduct an investigation
    2.2 use estimation and approximation
    2.3 develop equations or use formulae
    2.4 use flow charts
    2.5 make lists and charts
    2.6 look for patterns
    2.7 work backward
    2.8 break the problem into smaller parts
    2.9 look for a simpler or related problem
    2.10 make diagrams or models
    2.11 use manipulatives
    2.12 choose and sequence a series of mathematical operations
    2.13 sketch the graph of a problem situation
    2.14 establish procedures to gather and organize data
    2.15 apply empirical or inductive processes
    2.16 use geometric construction and measurement techniques
    2.17 make and test a conjecture.

3. *Students will be expected to* develop a variety of skills that can be used to carry out the plan for the solution of a problem. In particular, *students will be expected to*:

    3.1 apply selected strategies
    3.2 present ideas clearly
    3.3 document the solution process
    3.4 use appropriate group behaviours
    3.5 use calculators and computers
    3.6 evaluate problem-solving strategies for effectiveness
    3.7 alter or abandon non-productive strategies
    3.8 search for additional information
    3.9 ask questions
    3.10 be open to inspirations, intuitions and "bright ideas".

4. *Students will be expected to* employ a variety of skills to help them look back over the solution of a problem. In particular, *students will be expected to*:

   4.1 determine the reasonableness of an answer
   4.2 explain the solution in oral or written form
   4.3 consider the possibility of additional solutions
   4.4 search for other strategies and processes of solution
   4.5 create and solve similar problems
   4.6 note the characteristics that will be identifiable in similar problems
   4.7 make a generalization
   4.8 examine the assumptions made and simplifications and modifications used for accuracy, effectiveness and efficiency.

NUMERATION

Numeration concepts and calculation skills are basic in order to address successfully any mathematical situation. Since it is the intent to integrate the development of these concepts and skills into the other expectations of this course, it is not expected that numeration will be taught as a topic on its own.

1. *Students will be expected to* demonstrate an understanding that computation requires skills in addition, subtraction, multiplication and division with whole numbers, integers and rational numbers and can be done mentally, with paper and pencil, and with electronic calculators, as appropriate to a particular situation.

   Mental Computation

   Students will be expected to:

   1.1 add and subtract whole numbers, integers and rational numbers (limit: add three single-digit integers; subtract two single-digit integers; add and subtract two multiples of 5 and 10 up to 100; add and subtract fractions with common denominators; add and subtract tenths and hundredths written in decimal form)
   1.2 multiply whole numbers, integers and rational numbers (limit: single-digit numbers, multiples of 5 and 10 multiplied by a single-digit multiplier; double any number up to 50; multiply whole numbers, integers and decimals by powers of 10)
   1.3 square integers up to 10, and calculate square roots of integral perfect squares up to 100
   1.4 divide whole numbers, integers and rational numbers (limit: divide integers to 100 that are perfect multiples of single-digit divisors; halve even integers to 50; divide whole numbers, integers and decimals by powers of 10)
   1.5 determine whether a whole number or integer is divisible by 2, 3, 4, 5 or 10
   1.6 transform fractions to percents (limit: denominators of 2, 3, 4, 5, 10, 100) and whole number percents
   1.7 calculate the percent of given whole number quantities (limit: 1%, 10%, 25%, 50%, 100%, 200%)
   1.8 recognize "families" of fractions (tenths, twelfths, sixteenths) and transform fractions within families to common denominators.

Paper and Pencil Computation

Students will be expected to:

1.9 add and subtract whole numbers, integers and rational numbers (limit: add three 2-digit integers; subtract 3-digit integers; add and subtract two fractions with denominators of 2, 3, 4, 5, 6, 8, 10, 16; add three 2-digit decimals; subtract 2-digit decimals)
1.10 multiply whole numbers, integers and rational numbers (limit: 2-digit integers, 2-digit decimals, fractions with single-digit denominators and denominators that are multiples of 10)
1.11 divide whole numbers, integers and rational numbers (limit: 3-digit integers that are perfect multiples of single-digit divisors; halve even numbers up to 500)
1.12 calculate the percent of given quantities (limit: 5%, 15%, 25% and multiples of 10%)
1.13 calculate the value of a power (limit: whole number base <10 and exponent of 2 or 3)
1.14 transform mixed numbers to decimals and percents (limit: denominators of 2, 3, 4, 5, 6, 8, 10).

Calculation with Calculators

Students will be expected to:

1.15 calculate the percent of given quantities
1.16 calculate the value of a power (limit: integral base and whole number exponent)
1.17 calculate the square root of any positive rational number
1.18 transform any rational number to decimal and percent form.

2. *Students will be expected to* demonstrate an understanding that rounding, estimation and approximation are fundamental to facility in calculation.

Students will be expected to:

2.1 round given values to a specified level of precision
2.2 round solutions to an appropriate level of precision
2.3 use estimation techniques to predict solutions to calculations.

3. *Students will be expected to* demonstrate an understanding that checking an answer for reasonableness and accuracy is a fundamental step in the calculation process and that the level of accuracy required is dependent upon the particular situation.

Students will be expected to:

3.1 use estimation techniques to check a calculation for reasonableness
3.2 determine if the accuracy of a calculated answer is adequate for a given situation.

RATIO AND PROPORTION

1. *Students will be expected to* demonstrate an understanding that a ratio is a way of comparing the relative sizes of two quantities.

Students will be expected to:

1.1 compare two quantities, using ratios in the form $\frac{a}{b}$, a:b, and a to b.

2. *Students will be expected to* demonstrate an understanding that a rate is a ratio between quantities that have different units.

   Students will be expected to:

   2.1 calculate rates and unit rates

      2.1.1 solve problems involving the use of rates and unit rates.

3. *Students will be expected to* demonstrate an understanding that proportions are equations made up of equivalent ratios.

   Students will be expected to:

   3.1 calculate the unknown value in a proportion

      3.1.1 solve problems using proportions.

4. *Students will be expected to* demonstrate an understanding that a percent is a ratio in which a quantity is compared to 100.

   Students will be expected to:

   4.1 express ratios as percents and decimals and vice versa
   4.2 solve for the unknown element in a percentage calculation

      4.2.1 solve problems that involve the use of percents.

STATISTICS AND PROBABILITY

1. *Students will be expected to* demonstrate an understanding that data collected from a sample must be organized, presented and analyzed in order that valid inferences can be drawn.

   Students will be expected to:

   1.1 use the terms sample and population
   1.2 determine a suitable sample from a given population

      1.2.1 assess the suitability of a sample chosen from a given population

   1.3 organize data using tally sheets, frequency tables and stem-and-leaf plots

      1.3.1 design and carry out a simple statistical project involving the collection, organization, presentation and analysis of data gathered from an appropriate sample

   1.4 interpret and analyze data represented by pictographs, circle graphs, bar graphs, line graphs, and histograms
   1.5 identify the characteristics of a misleading graphical display
   1.6 determine and calculate appropriate measures of central tendency

      1.6.1 solve problems that involve the use of an appropriate measure of central tendency in the analysis of sets of data

   1.7 make inferences and generalizations about a population from which a sample was taken.

2. *Students will be expected to* demonstrate an understanding that a probability is a numerical measure of the likelihood of an event and can take values from 0 through 1.

Students will be expected to:

2.1 list the sample spaces for simple experiments or simulations
2.2 use counting techniques, such as tree diagrams, to find the number of possible outcomes of an experiment
2.3 express the probability of an event from a given situation, simple experiment or simulation

2.3.1 perform an investigation to find the experimental probability of an event.

GEOMETRY

1. *Students will be expected to* demonstrate an understanding that two- and three-dimensional geometric figures can be classified and have characteristics that uniquely define them.

Students will be expected to:

1.1 classify polygons according to the number of sides
1.2 classify triangles and quadrilaterals by sides and angles
1.3 determine the sum of the interior angles of a polygon

1.3.1 perform an investigation to determine the sum of the interior angles of any polygon

1.4 classify the following common geometric solids: rectangular prisms, pyramids, cylinders, cones and spheres

1.4.1 perform an investigation to determine the relationship amongst the edges, faces and vertices of polyhedra
1.4.2 draw nets that define simple polyhedra
1.4.3 use nets to construct simple polyhedra

1.5 identify and define the following terms associated with a circle; such as radius, diameter, circumference, semicircle.

2. *Students will be expected to* demonstrate an understanding that geometric figures can be defined uniquely, and that these unique characteristics can be reproduced using construction techniques and geometric instruments.

Students will be expected to:

2.1 construct a line segment of given length, or congruent to a given segment
2.2 draw an angle of a given size, or construct an angle congruent to a given angle
2.3 construct the perpendicular bisectors of segments and angles
2.4 draw regular polygons
2.5 construct a circle of given radius
2.6 use a combination of construction techniques

2.6.1 construct angles of 90°, 45°, 60° and 30°
2.6.2 use construction techniques in the construction or reproduction of geometric figures or designs.

3. *Students will be expected to* demonstrate an understanding that similar geometric figures have the same shape but may differ in size, that corresponding angles are equal, and that the lengths of corresponding sides are proportional.

   Students will be expected to:

   3.1 use the relationship between the lengths of the sides of similar triangles to calculate the lengths of unknown sides

      3.1.1 solve problems, using the properties of similar polygons

   3.2 recognize congruency as similarity in which the size of the figures is the same.

4. *Students will be expected to* demonstrate an understanding of the Pythagorean theorem.

   Students will be expected to:

   4.1 use the Pythagorean theorem to find the length of a side in a right triangle

      4.1.1 solve problems involving right triangles by using the Pythagorean theorem.

5. *Students will be expected to* demonstrate an understanding that angles formed by intersecting lines relate to each other.

   Students will be expected to:

   5.1 identify parallel, intersecting and perpendicular lines
   5.2 identify and recognize the characteristics of the relationship between supplementary, complementary and vertical angles

      5.2.1 perform an investigation to determine the properties of the angles between intersecting lines
      5.2.2 solve problems involving the relationships amongst intersecting and parallel lines and the angles they form to solve problems involving the measure of unknown angles.

MEASUREMENT

1. *Students will be expected to* demonstrate an understanding that standard units of measure for length, mass, and volume provide consistency and accuracy and that the most widely used and accepted measurement system is the SI (metric) system.

   Students will be expected to:

   1.1 recognize the basic SI units of measurement for length (metre (m)), mass (kilogram (kg)), (tonne (t)), and volume of liquids or gases (litre (L))
   1.2 use the appropriate SI measures for length, mass and liquid/gas volume (limit: kg, g, L, mL, m, cm, mm, km)
   1.3 express equivalences amongst units of length, of mass and of volume
   1.4 recognize non-metric units of measurement still in common use.

2. *Students will be expected to* demonstrate an understanding that perimeter is the measure of the distance around a geometric figure.

   Students will be expected to:

   2.1 calculate the perimeter of polygons

      2.1.1 calculate the perimeter of irregular shapes and objects

   2.2 calculate the circumference of a circle by using a formula

      2.2.1 solve problems that involve finding the circumference of circles and circular regions.

3. *Students will be expected to* demonstrate an understanding that area is the number of unit squares that are enclosed within the boundaries of a geometric figure.

   Students will be expected to:

   3.1 calculate the area of triangles and quadrilaterals by using formulae (limit: triangles, quadrilaterals)

      3.1.1 solve problems that involve finding the area of triangles and rectangles

   3.2 find the area of a circle by using a formula

      3.2.1 solve problems that involve finding the area of circles.

4. *Students will be expected to* demonstrate an understanding that volume is the number of unit cubes that are within a geometric solid.

   Students will be expected to:

   4.1 calculate the volume of rectangular prisms and cylinders by using formulae

      4.1.1 solve problems that involve calculating the volume of rectangular prisms and cylinders.

5. *Students will be expected to* demonstrate an understanding that time can be measured in seconds, minutes, hours, days, weeks, months and years.

   Students will be expected to:

   5.1 change units of time from one form to another
   5.2 tell time, using a 24-hour clock
   5.3 write times using proper 24-hour notation
   5.4 perform calculations, using units of time.

6. *Students will be expected to* demonstrate an understanding that temperature can be measured in degrees.

   Students will be expected to:

   6.1 measure temperatures using the Celsius scale
   6.2 perform calculations involving the use of temperature measured in Celsius.

ALGEBRA AND GRAPHING

1. *Students will be expected to* demonstrate an understanding that algebraic expressions can be used to represent situations where one or more values can vary.

   Students will be expected to:

   1.1 write first degree algebraic expressions to illustrate simple mathematical situations with a maximum of two variables
   1.2 evaluate algebraic expressions for replacement values of the variables

      1.2.1 solve problems that involve the evaluation of expressions for values of the variables

   1.3 solve first degree equations in one variable through the use of guess-and-test techniques, concrete manipulatives and formal methods (limit: $x + a = b$, $ax = b$, $ax + b = c$, $\frac{x}{a} = b$)

      1.3.1 solve problems that can be represented by first degree equations in one variable
      1.3.2 use calculators to aid in the solution of equations.

2. *Students will be expected to* demonstrate an understanding that two variables can be related and that those relationships can be expressed by sets of ordered pairs, equations and graphs.

   Students will be expected to:

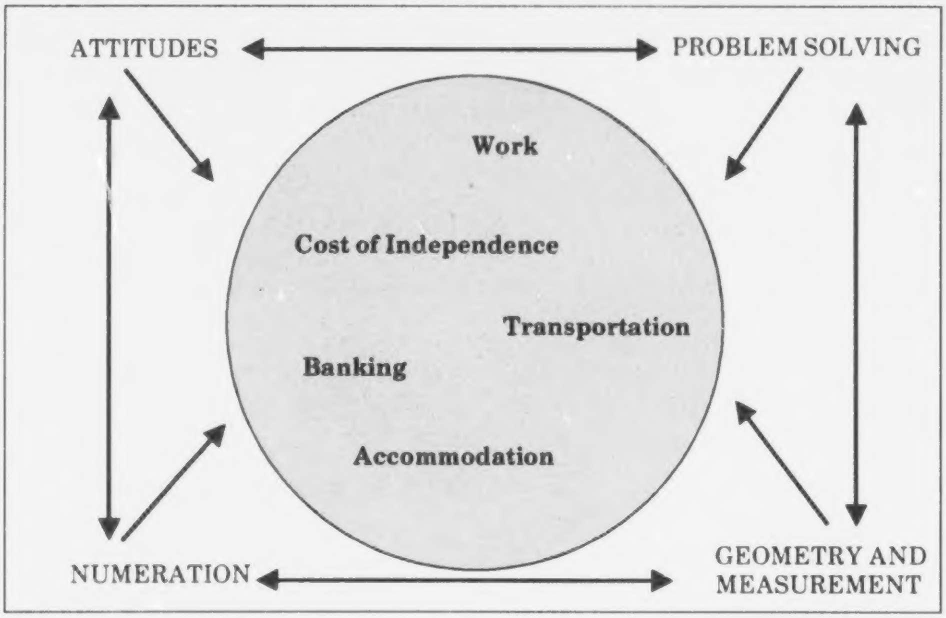
   2.1 describe the relationships between two variables, verbally and in writing

      2.1.1 determine the algebraic relationship between two variables by informal means, such as guess-and-test

   2.2 plot points on a coordinate plane
   2.3 plot the points and sketch the graphs that describe the relationship between two variables
   2.4 construct tables of values that satisfy given linear equations in two variables
   2.5 sketch graphs from tables of values that satisfy a given linear equation in two variables
   2.6 read and interpret the graphs that describe the relationship between two variables

      2.6.1 analyze graphs that describe the relationship between physical variables by the use of interpolation and extrapolation techniques.

MATHEMATICS 24 PROGRAM STRUCTURE



ATTITUDES

1. *Students will be expected to* demonstrate an attitude associated with mathematical literacy. In particular, *students will be expected to*:

    1.1 be confident in their mathematical knowledge and in their ability to acquire new knowledge
    1.2 demonstrate persistence, resolve, flexibility and ingenuity in finding the solution to problems
    1.3 develop intellectual curiosity and openness to new ideas, insights and change in the pursuit of mathematical knowledge
    1.4 exhibit an attitude of curiosity and spontaneity and appreciate creativity and innovation in representing situations mathematically
    1.5 be critical and constructive in approaching new ideas and new processes
    1.6 be aware of the importance of communication skills in mathematics
    1.7 appreciate the usefulness of computational competence, mathematical processes and problem-solving skills that are used in the decision-making and modeling processes in our society
    1.8 appreciate the contributions of mathematics to our culture and civilization.

PROBLEM SOLVING

1. *Students will be expected to* demonstrate an understanding of the variety of procedures that can be used to understand problems. In particular, *students will be expected to*:

    1.1 read the problem thoroughly

1.2 identify and clarify key components
1.3 restate the problem, using familiar terms
1.4 evaluate the given information as to sufficiency and relevancy
1.5 interpret pictures, charts and graphs
1.6 determine hidden assumptions
1.7 ask relevant questions
1.8 identify given, needed and wanted information
1.9 diagram or model the problem situation
1.10 use suitable notation
1.11 determine valid inferences
1.12 simulate a problem situation
1.13 formulate situations into identifiable problems.

2. *Students will be expected to* develop a variety of strategies for use in the solution of mathematical problems. In particular, *students will be expected to*:

2.1 conduct an investigation
2.2 use estimation and approximation
2.3 develop equations or use formulae
2.4 use flow charts
2.5 make lists and charts
2.6 look for patterns
2.7 work backward
2.8 break the problem into smaller parts
2.9 look for a simpler or related problem
2.10 make diagrams or models
2.11 use manipulatives
2.12 choose and sequence a series of mathematical operations
2.13 sketch the graph of a problem situation
2.14 establish procedures to gather and organize data
2.15 apply empirical or inductive processes
2.16 use geometric construction and measurement techniques
2.17 make and test a conjecture.

3. *Students will be expected to* develop a variety of skills that can be used to carry out the plan for the solution of a problem. In particular, *students will be expected to*:

3.1 apply selected strategies
3.2 present ideas clearly
3.3 document the solution process
3.4 use appropriate group behaviours
3.5 use calculators and computers
3.6 evaluate problem-solving strategies for effectiveness
3.7 alter or abandon non-productive strategies
3.8 search for additional information
3.9 ask questions
3.10 be open to inspirations, intuitions and "bright ideas".

4. *Students will be expected to* employ a variety of skills to help them look back over the solution of a problem. In particular, *students will be expected to*:

4.1 determine the reasonableness of an answer

4.2 explain the solution, in oral or written form
4.3 consider the possibility of additional solutions
4.4 search for other strategies and processes of solution
4.5 create and solve similar problems
4.6 note the characteristics that will be identifiable in similar problems
4.7 make a generalization
4.8 examine the assumption made and simplifications and modifications used for accuracy, effectiveness and efficiency.

NUMERATION

Numeration concepts and calculation skills are basic in order to address successfully any mathematical situation. Since it is the intent to integrate the development of these concepts and skills into the other expectations of this course, it is not expected that numeration will be taught as a topic on its own.

1. *Students will be expected to* demonstrate an understanding that computation requires skills in addition, subtraction, multiplication and division with whole numbers, integers and rational numbers and can be done mentally, with paper and pencil, and with electronic calculators, as appropriate to a particular situation.

Mental Computation

Students will be expected to:

1.1 add and subtract whole numbers, integers and rational numbers (limit: add three single-digit integers; subtract two single-digit integers; add and subtract two multiples of 5 and 10 up to 100; add and subtract fractions with common denominators; add and subtract tenths and hundredths written in decimal form)
1.2 multiply whole numbers, integers and rational numbers (limit: single-digit numbers, multiples of 5 and 10 multiplied by a single-digit multiplier; double any number up to 50; multiply whole numbers, integers and decimals by powers of 10)
1.3 square integers up to 10, and calculate square roots of integral perfect squares up to 100
1.4 divide whole numbers, integers and rational numbers (limit: divide integers to 100 that are perfect multiples of single-digit divisors; halve even integers to 50; divide whole numbers, integers and decimals by powers of 10)
1.5 determine whether a whole number or integer is divisible by 2, 3, 4, 5 or 10
1.6 transform fractions to percents (limit: denominators of 2, 3, 4, 5, 10, 100) and whole number percents
1.7 calculate the percent of given whole number quantities (limit: 1%, 10%, 25%, 50%, 100%, 200%)
1.8 recognize "families" of fractions (tenths, twelfths, sixteenths) and transform fractions within families to common denominators.

Paper and Pencil Computation

Students will be expected to:

1.9 add and subtract whole numbers, integers and rational numbers (limit: add three 2-digit integers; subtract 3-digit integers; add and subtract two fractions with denominators of 2, 3, 4, 5, 6, 8, 10, 16; add three 2-digit decimals; subtract 2-digit decimals)

1.10 multiply whole numbers, integers and rational numbers (limit: 2-digit integers, 2-digit decimals, fractions with single-digit denominators and denominators that are multiples of 10)
1.11 divide whole numbers, integers and rational numbers (limit: 3-digit integers that are perfect multiples of single-digit divisors; halve even numbers up to 500)
1.12 calculate the percent of given quantities (limit: 5%, 15%, 25% and multiples of 10%)
1.13 calculate the value of a power (limit: whole number base <10 and exponent of 2 or 3)
1.14 transform mixed numbers to decimals and percents (limit: denominators of 2, 3, 4, 5, 6, 8, 10).

Calculation with Calculators

Students will be expected to:

1.15 calculate the percent of given quantities
1.16 calculate the value of a power (limit: integral base and whole number exponent)
1.17 calculate the square root of any positive rational number
1.18 transform any rational number to decimal and percent form.

2. *Students will be expected to* demonstrate an understanding that rounding, estimation and approximation are fundamental to facility in calculation.

Students will be expected to:

2.1 round given values to a specified level of precision
2.2 round solutions to an appropriate level of precision
2.3 use estimation techniques to predict solutions to calculations.

3. *Students will be expected to* demonstrate an understanding that checking an answer for reasonableness and accuracy is a fundamental step in the calculation process and that the level of accuracy required is dependent upon the particular situation.

Students will be expected to:

3.1 use estimation techniques to check a calculation for reasonableness
3.2 determine if the accuracy of a calculated answer is adequate for a given situation.

GEOMETRY AND MEASUREMENT

Understanding of geometric concepts and facility with measurement skills are basic to many mathematical situations faced in life. Since it is the intent to integrate the development of these concepts and skills into the other expectations of this course, it is not expected that geometry and measurement will be taught as topics on their own.

1. *Students will be expected to* demonstrate an understanding that geometric shapes and solids have mathematical attributes.

Students will be expected to:

1.1 make scale drawings and models of geometric shapes and solids
1.2 use the geometric properties of angles and lines to determine the properties and measurements of shapes and solids.

2. *Students will be expected to* demonstrate an understanding that geometric shapes and solids can be measured directly and indirectly using various techniques, instruments and units, and that the accuracy of any measurement is dependent upon the instrument being used, the individual doing the measurement and the need for precision.

Students will be expected to:

2.1 measure length, angle, area, volume, capacity and mass, using appropriate instruments
2.2 determine approximate measurements from scale drawings or maps
2.3 determine the accuracy of a measurement based on the need and the instruments used
2.4 determine the proper precision for an approximated or ascertained measurement
2.5 use formulae for perimeter, area and volume to measure indirectly regular geometric shapes and solids
2.6 use procedures based on known formulae to measure indirectly irregular geometric shapes and solids.

WORK - INCOME

1. *Students will be expected to* demonstrate an understanding that pay received for work done can be calculated and that the deductions from gross pay can be determined.

Students will be expected to:

1.1 calculate gross wages based on a regular hourly rate and an overtime hourly rate as well as other pay methods, including weekly and monthly salaries, piecework, bonuses, commissions and combinations of methods
1.2 calculate net weekly, biweekly and monthly wages, considering deductions such as unemployment insurance, retirement pensions, Canada Pension Plan, medical insurance, disability insurance and income tax

    1.2.1 compare the financial advantages between jobs in which the worker gets no benefits other than wages and those in which benefits are provided

1.3 calculate gross and net annual earnings, given various pay methods
1.4 calculate weekly, biweekly and monthly earnings, given annual earnings.

WORK - INCOME TAX

1. *Students will be expected to* demonstrate an understanding that income tax will be paid by all workers and that the amount paid will depend upon a number of factors.

Students will be expected to:

1.1 collect and interpret records of employment income
1.2 determine and calculate allowable deductions from income

    1.2.1 determine the effect of discretionary deductions on total tax paid

1.3 complete an appropriate Revenue Canada taxation form.

BANKING – PERSONAL BANKING

1. *Students will be expected to* demonstrate an understanding that savings and chequing accounts with banks and other financial institutions are services that consumers can use to help manage their money.

   Students will be expected to:

   1.1 identify and compare types and purposes of accounts
   1.2 deposit and withdraw funds
   1.3 verify an account statement against records of deposit and withdrawal and reconcile chequing account statements

      1.3.1 compare the costs of various banking services, and determine the advantages and disadvantages of maintaining particular types of accounts

   1.4 calculate simple interest for periods involving days, months and years
   1.5 calculate compound interest

      1.5.1 use a calculator to calculate compound interest over a maximum of four compound interest periods
      1.5.2 use simple tables or a computer to calculate compound interest for more than four compound interest periods
      1.5.3 compare simple and compound investment earnings amongst various forms of savings plans including types of savings accounts, guaranteed investment certificates and other bank-centred savings plans.

BANKING – CONSUMER CREDIT

1. *Students will be expected to* demonstrate an understanding that borrowing money is a consumer activity in which the use of someone else's money is bought and that the price is interest paid on the principle borrowed.

   Students will be expected to:

   1.1 identify types and characteristics of loans such as consumer loans, car loans and consolidation loans

      1.1.1 compare actual costs of borrowing between different companies and different types of loans

   1.2 calculate the periodic payments for loans, using tables
   1.3 calculate the total amount to be repaid, including interest, given various types of loans and loan characteristics.

2. *Students will be expected to* demonstrate an understanding that credit cards provide consumers with instant loans.

   Students will be expected to:

   2.1 read, interpret and calculate the information on credit card sales, drafts and monthly statements
   2.2 calculate the interest charge due on a credit card balance

2.3 calculate the service charges associated with using credit cards, including membership charges, yearly fees and transaction fees
2.4 calculate the actual time required and total cost to pay off a credit card balance by making the minimum payment only.

TRANSPORTATION - PURCHASING A VEHICLE

1. *Students will be expected to* demonstrate an understanding of the costs associated with purchasing a motor vehicle.

   Students will be expected to:

   1.1 calculate the fair price of a vehicle given age, condition, odometer reading and options

      1.1.1 determine the total costs expected (such as down payment, repairs, insurance, etc.) upon the purchase of a vehicle

   1.2 determine the monthly payments for installment purchases

      1.2.1 compare the costs of various payment options that may be available for the purchase or lease of a vehicle.

TRANSPORTATION - OPERATING A VEHICLE

1. *Students will be expected to* demonstrate an understanding of the costs associated with operating a motor vehicle.

   Students will be expected to:

   1.1 calculate the costs associated with owning a vehicle, including monthly payments, insurance, gasoline and maintenance costs
   1.2 calculate the cost of vehicle insurance, given factors such as type and age of vehicle, gender, age and driving record of insured
   1.3 calculate the fuel economy of a vehicle as rate of consumption per 100 km
   1.4 calculate the cost of gasoline for travelling a given distance
   1.5 determine the depreciation of a vehicle over time
   1.6 calculate the total costs of owning and operating a vehicle over a period of time

      1.6.1 examine the costs, advantages and disadvantages associated with alternatives to owning a motor vehicle, such as using public transit, taxicabs, riding a bicycle, etc.

TRANSPORTATION - TRAVELLING

1. *Students will be expected to* demonstrate an understanding of the costs associated with travelling.

   Students will be expected to:

   1.1 calculate the costs of accommodation and meals based on the location, length of trip, length of stay, type of meal plan and gratuities
   1.2 estimate the costs of automobile travel, including fuel, maintenance, accommodation and meals en route, and compare the costs with other modes of travel

1.3 estimate the total distances travelled, using maps and distance charts
1.4 estimate miscellaneous costs such as entertainment, excursions, gratuities, health insurance and travel insurance
1.5 calculate the costs associated with travellers cheques and conversions amongst currencies
1.6 compare the costs of package vacations with the estimated costs of individually arranged vacations.

ACCOMMODATION – RENTING AND PURCHASING A HOME

1. *Students will be expected to* demonstrate an understanding that renting and purchasing a residence are two options with different responsibilities, advantages and costs.

Students will be expected to:

1.1 investigate the costs of renting, given various conditions such as location, type of building, size and amenities
1.2 estimate the monthly costs associated with renting a residence, including rent, parking, insurance and other fixed costs and utilities, and other variable costs
1.3 investigate the purchase price of a residence, given various conditions such as the type of housing, location, amenities and size
1.4 calculate the costs and fees associated with purchasing a residence
1.5 estimate and calculate the monthly costs associated with home ownership, including mortgage payments, taxes, utilities, insurance and maintenance
1.6 calculate the costs and fees associated with changing a residence, such as moving, utility hook-ups and security deposit
1.7 estimate and calculate the costs of furnishing and supplying a rental accommodation
1.8 compare the relative costs and advantages between owning and renting property.

ACCOMMODATION – MORTGAGE AND HOUSEHOLD INSURANCE

1. *Students will be expected to* demonstrate an understanding that a mortgage is a loan used to purchase a residence.

Students will be expected to:

1.1 define mortgage and distinguish between mortgage types and options
1.2 calculate mortgage payments, using amortization tables for various terms and conditions

    1.2.1 compare the costs of mortgage payments, given various terms and payment options

1.3 calculate the total cost of purchasing real estate over the entire length of the amortization period

    1.3.1 compare the total costs of several payment plans

1.4 estimate and calculate the regular payment made on a residence, if it is comprised of principle, interest and taxes.

2. *Students will be expected to* demonstrate an understanding that household insurance is protection purchased from a company to cover losses incurred to a residence or its contents.

   Students will be expected to:

   2.1 examine types of household insurance policies and the purposes and advantages of each
   2.2 calculate the costs of insurance based on various factors including types of coverage, location, property value, type of construction, availability of fire protection, amount of deductible and limits of liability.

ACCOMMODATION - BUILDING, DECORATING AND FURNISHING

1. *Students will be expected to* demonstrate an understanding that the approximate cost of building a new house can be determined through estimations based on known measures and costs.

   Students will be expected to:

   1.1 make a scale drawing of a house and a lot
   1.2 use the local building code ratios between the size of the foundation, house and lot to determine the allowable size of the house
   1.3 estimate the total cost of building a house based on estimated costs per square metre

      1.3.1 compare the costs of building a house, using various combinations and qualities of building materials.

2. *Students will be expected to* demonstrate an understanding that a residence can be represented by a scale drawing, which can then be measured and used for various purposes.

   Students will be expected to:

   2.1 make a scale drawing of a house, apartment or room to be decorated and furnished
   2.2 calculate the surface areas (floors, ceilings, walls) to be decorated
   2.3 calculate the costs of floor, window and wall coverings, and the total costs

      2.3.1 perform an investigation to determine the costs of redecorating an entire residence

   2.4 calculate the costs of furnishings and appliances.

COST OF INDEPENDENCE - BUDGETS AND GETTING VALUE FOR MONEY SPENT

1. *Students will be expected to* demonstrate an understanding that a personal budget is useful in order to maintain records of expenditure and to plan for the future.

   Students will be expected to:

   1.1 record estimated earnings and expenses
   1.2 calculate individual expenses as percents of total expenses
   1.3 design and balance a personal budget.

2. *Students will be expected to* demonstrate an understanding that consumers can obtain the best value for their money by the application of some wise spending practices.

   Students will be expected to:

   2.1 calculate and compare the unit costs of items
   2.2 calculate the sale price of an item, given the list or regular price and the discount
   2.3 calculate the rate of discount, given the regular and the sale prices
   2.4 calculate the regular price, given the sale price and the rate of discount
   2.5 calculate the sales tax on purchases.

COST OF INDEPENDENCE - LIFE AND HEALTH INSURANCE

1. *Students will be expected to* demonstrate an understanding that life insurance is a way to provide financial protection for dependents in case of death.

   Students will be expected to:

   1.1 identify, compare and discuss features of types of life insurance, such as term, whole-life, endowment and group
   1.2 calculate premiums for life insurance coverage, given factors such as amount of insurance, age, gender, health, employment, lifestyle and leisure activities
   1.3 identify and examine company projections of life insurance values, including dividends, over the life of a policy
   1.4 calculate the costs and benefits of health insurance, given various types of coverage
   1.5 calculate the costs and benefits of disability insurance.

BASIC LEARNING RESOURCES

Mathematics 14

Price, Jack, Olene Brame, Michael Charles and Miriam Clifford. *Applications of Mathematics*. Canadian edition. Toronto, ON: Merrill Publishing, 1990.

ISBN 0675034744

Mathematics 24

Bolster, L. Carey, H. Douglas Woodburn and Joella H. Gipson. *Consumer and Career Mathematics*. Second Canadian edition. Toronto, ON: Gage Educational Publishing Company, 1991.

ISBN 0771536127

Lange, Walter H., Robert D. Mason and Temoleon G. Rousos. *Consumer Mathematics*. Markham, ON: Houghton Mifflin Canada Ltd., 1985.

ISBN 0395383099

OTHER COURSES

CONTENTS

Special Projects 10–20–30

Work Experience 15–25–35

SPECIAL PROJECTS 10-20-30

PURPOSE

Special project credits are designed to recognize work undertaken by students on an individual or small group basis and should not be used as a means of offering credits for unapproved courses. Students may enroll in Special Projects 10, 20 or 30. Special Projects 20-30 do not have prerequisites.

Special project credits serve two major functions:

1. students become involved in the selection, planning and organization of their own programs
2. students pursue activities in which they have considerable interest or ability but which are not within the scope of the regular curriculum or the programs being offered in the school.

PROCEDURES

The requirements for special project credits are as follows.

1. Each project shall be carried out under the supervision of a teacher.
2. Special project credits shall not be awarded for student activities that would be considered a normal part of extra-curricular or co-curricular activities generally offered by a school; e.g., school team sports, school newspaper, yearbook.
3. In instances where a student enrolls in more than one special project, credits shall not be approved unless the projects vary substantially from year to year or demonstrate increased levels of proficiency.
4. Students are required to submit a clearly planned proposal to the principal for approval. The proposal should include:
   - a description or outline of the project
   - the number of hours of work expected to complete the project
   - a method by which the project would be carried out
   - a description of the expected result
   - evaluation procedures as outlined by a teacher
   - an expected completion date
   - name of the supervising teacher.
5. The principal shall retain a copy of each special project proposal until the project is completed.
6. The opportunity to earn special project credits shall be available to all students, including those attending an authorized summer school.
7. The content of the special project need not be related to a specific school subject.
8. If a special project is related to a specific school subject, the content of the project shall be distinct from and in addition to regular course requirements.

9. Projects shall be completed and reported to the principal prior to the conclusion of the semester or full term.

10. Where a project takes a student off campus, the provisions of the Work Experience Education Policy shall apply (see *Policy Manual*, Alberta Education).

11. Special project credits may be applied toward the Advanced and General High School Diplomas.

12. Students who successfully complete projects are granted 3 credits for 75 hours of work or 5 credits for 125 hours of work in any one semester, or full term on the approval of the principal.

13. School jurisdictions shall develop policies to ensure overall consistency and standardization of procedures governing special projects in their schools. Evaluation and reporting procedures should be included in the policy.

14. There are no basic learning resources for Special Projects 10, 20 or 30 at the present time.

WORK EXPERIENCE
15-25-35

Work experience education provides an opportunity for students to apply, in the workplace, knowledge, skills and attitudes acquired through coursework. Work experience education is viewed as a partnership of student, school and employer, with the school and the community combining resources to provide opportunities for students to discover their career interests and aptitudes in meaningful work activities, situated in community-based work stations and sites. Work experience education includes work study and work experience.

Work experience education is a major component of the community partnership concept addressed in the policy statement *Secondary Education in Alberta*, June 1985. It involves a cooperative effort of the school and the community to further the student's personal development, career planning, occupational knowledge and skills. Work experience enhances a student's in-school studies with on-the-job experiential learning activities in business, industry, government and community service.

Work experience education must be approved by the Minister, under section 37 of the *School Act*.

The work experience education program of studies is comprised of two major components, work study and work experience.

- Work Study (integrated within a course). These are experiential learning activities under the cooperative supervision of the subject area teacher–coordinator and the employer, and which are undertaken by a student as an integral part of an approved school course.
- Work Experience 15–25–35 (separate courses for credit). These are courses that provide experiential learning activities undertaken by a student as an integral part of a planned school program that is under the cooperative supervision of a teacher–coordinator and the employer.

There are no basic learning resources for Work Experience 15, 25 or 35 at the present time.

Specific procedures and legislation about work experience education is provided in the *Work Experience: Teacher Resource Manual, Junior and Senior High School*, 1990, and the *Policy Manual*, Alberta Education available upon written request from Alberta Education, Learning Resources Distributing Centre, 12360 – 142 Street, Edmonton, Alberta, T5L 4X9.

PERSONAL DEVELOPMENT

CONTENTS

Health and Personal Development 10

Career and Life Management 20

Occupations 10

Physical Education 10–20–30

Driver and Traffic Safety Education 10

HEALTH AND PERSONAL DEVELOPMENT 10

A. RATIONALE AND PHILOSOPHY

As a contributor to the environment of adolescents, the school has a responsibility to assist young adults to see themselves, and others, as unique and important individuals. A health program that encompasses the multidimensional nature of the person assists students to recognize their potential and to become aware of the alternatives that will enhance their personal lifestyles.

The rationale for health and personal development as a subject taught in Alberta schools comes directly from the *Goals of Basic Education for Alberta* as adopted by the Legislative Assembly of Alberta in 1978.

> Schooling, as part of education, accepts primary and distinctive responsibility for specific goals basic to the broader goals of education. Programs and activities shall be planned, taught, and evaluated on the basis of these specific goals . . .

Two of the goals of schooling provide the basis for the present health program.

> To acquire knowledge and develop skills, attitudes and habits which contribute to physical, mental and social well-being.
>
> To acquire knowledge and develop skills, attitudes and habits required to respond to the opportunities and expectations of the world of work.

B. GOALS AND OBJECTIVES

1. To encourage individuals to maintain their physical health, and to reinforce a positive attitude toward physical well-being.
2. To assist students to recognize and promote provincial, national and world health organizations.
3. To contribute to the mental health of individuals through understanding the complex factors that make up personality.
4. To contribute to the mental health of individuals by developing skills in mutual understanding and adjustment within the family environment.
5. To prepare the individual for the sharing and adjustments necessary in personal relationships.
6. To develop skills and improve decision making in the use of leisure time.
7. To understand the functioning of the nervous system.
8. To develop skills and decision making in the analysis of potentially hazardous situations for accident prevention.
9. To introduce students to a breadth of career choices.
10. To equip individuals with the personal skills needed in the employment setting.

C. CONTENT

Unit 1: Success in High School

Orientation
Learning

Unit 2: Our Physical Growth into Adulthood

The Nature of the Body
Functions of the Body

Unit 3: Canada's Progress in Public Health

Why Public Health Service?
Improvement of World Health
The General Health Picture in Canada
Canada's National Health Program
Growing Recognition of the Alcohol Problem

Unit 4: Public Health in Alberta

Importance of Health Statistics
Public Health Measures in Alberta

Unit 5: Personality

The Meaning of Personality
Character
Personality Under Stress

Unit 6: Group Life

The Group's Responsibilities to the Individual
The Family Group
The Group and Leisure Time

Unit 7: Man's Marvellous Control System

The Nervous System and Its Work
Disorder in the Nervous System

Unit 8: Preventing Accidents and Meeting Emergencies

Protection in Public Transportation
Safety in Recreation
Safety in Industry
Alcohol and Safety

Unit 9: Selecting a Vocation

The Importance of Career Planning
The Importance of Interest and Aptitudes in Choosing a Vocation
Personality and Its Relationship to Vocational Choice
Job Families and Job Opportunities
Making the Most of Opportunities to Secure Employment
Effective Procedures in Applying for a Job
Making Good on the Job

BASIC LEARNING RESOURCES

There are no basic learning resources for Health and Personal Development 10 at the present time.

CAREER AND LIFE MANAGEMENT 20

PROGRAM INTRODUCTION

RATIONALE AND PHILOSOPHY

Career and Life Management, as prescribed within the *Secondary Education in Alberta* Policy Statement, June 1985, is a core course required of all senior high school students.

There has been growing recognition that many of our young people are ill-prepared to cope with the ever accelerating rate of change in our social, economic and physical world, with no indication that this fast pace will decrease. This high rate of change emphasizes the need for self-management skills — the ability to organize and shape one's life occupationally, financially and socially.

The basis for building students' commitment to management as a lifelong strategy is the assurance that the learning experiences in which they are involved are relevant, meaningful and appropriate to their cognitive, affective and psychomotor developmental stage.

Career and Life Management 20 will provide all senior high school students with opportunities to develop and practise their skills in communicating, thinking and dealing with feelings. This will be done in situations that will help them to build confidence in their ability to cope with the stress of growing up and living within a rapidly changing society.

It is crucial for the individual to develop and to apply the necessary knowledge and skills to deal with a wide variety of issues and situations that will be encountered throughout life. As well, it is important to be able to marshal all available resources in order to shape the future.

Students will have the opportunity to:

- realistically set and plan for personal goals
- assess and consider their own abilities
- determine how their personal characteristics affect their learning and decision-making processes
- test their ideas and current expectations in a non-judgmental and safe environment.

Developing thinking and communicating skills and learning how to deal with feelings effectively, will provide a basis for building self-management skills and improving relationships with others. Students will appreciate and understand how careers, relationships, health and finance affect their lives. Through an increased awareness of self the student will be able to contribute more positively to the well-being of others.

GENERAL OBJECTIVES

The student:

1. develops a more positive self-concept and an understanding of personal interests, values, aptitudes and abilities
2. promotes independent personal management by developing the ability to make choices and accept challenges that take into account significant others, values, responsibilities and resources
3. develops an awareness of health as a resource for everyday living: that health maintenance contributes to achieving control over and improvement of personal well-being; to the process of realizing goals and satisfying needs, and to coping with changes in the environment
4. develops knowledge about career options and determines personal career strategies
5. develops an awareness of the relationship between and among personal economics, lifestyle and occupational planning
6. develops the ability to deal with feelings, and to apply effective thinking and communication skills in order to function well in society.

CURRICULUM STRUCTURE

Career and Life Management 20 has two sections:

- core curriculum
- optional curriculum.

Core Curriculum (3 credits)

The core curriculum is structured into six themes: all themes are to be covered in the 3-credit course, but may be sequenced at the discretion of the teacher.

A. Self-Management
B. Well-Being
C. Relationships
D. Careers and the World of Work
E. Independent Living
F. Human Sexuality[1]

Optional Curriculum (4 or 5 credits)

The core curriculum may be expanded by integrating one or two of four optional modules that have been developed to provide more in-depth study of topics introduced in the core curriculum.

1. Dealing with Crises
2. Entrepreneurship
3. Consumer and Investment Choices
4. Cultural Bridges

Schools may expand the core curriculum to 4 credits (add one module) or 5 credits (add two modules).

CURRICULUM ORGANIZATION

Student Learning Outcomes

The curriculum, both core themes and optional modules, is organized into sub-themes. Within each **sub-theme**, student learning outcomes are defined as **learning expectations**.

The objectives of the Career and Life Management curriculum, the diversity of student experience, and the need to respond to personal and social issues require the active involvement of the student through:

- structuring the content to meet individual student needs
- allowing students to reflect on and personalize the information and ideas outlined within the course
- encouraging students to share their ideas and consider the point of view of others.

This involvement has been integrated within the structure of the course by correlating each learning expectation to one or more of the following learning processes:

Recall (R)	Understanding (U)
Involvement (I)	Synthesis (S)

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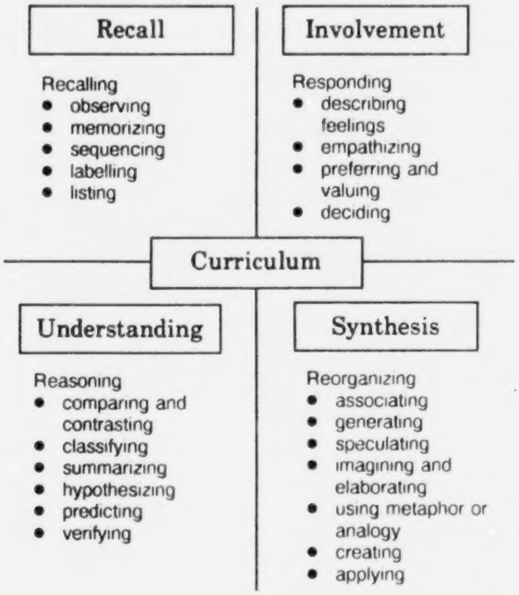
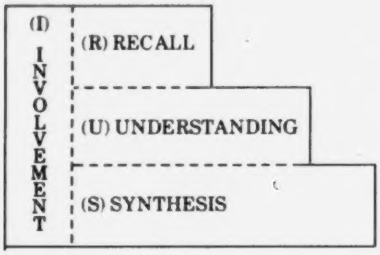
[1] Parents may withdraw students from the human sexuality theme by submitting a letter to the school indicating their intention to do so. It is recommended that prior to teaching this theme, parents be fully informed of the objectives and resources that will be used.

Learning Processes[1]


Recall
Recalling
• observing
• memorizing
• sequencing
• labelling
• listing
Involvement
Responding
• describing feelings
• empathizing
• preferring and valuing
• deciding
Curriculum
Understanding
Reasoning
• comparing and contrasting
• classifying
• summarizing
• hypothesizing
• predicting
• verifying
Synthesis
Reorganizing
• associating
• generating
• speculating
• imagining and elaborating
• using metaphor or analogy
• creating
• applying

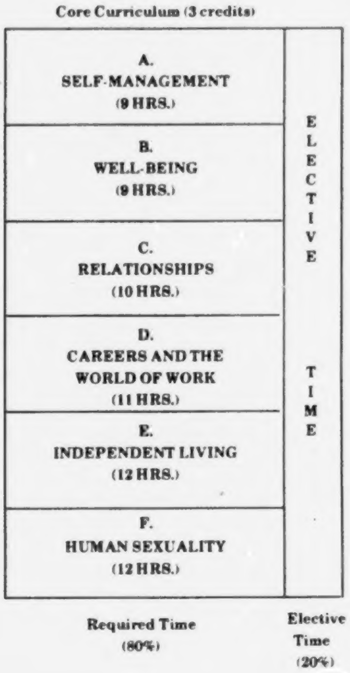
The following diagram reflects the increasing complexity of three of the thinking processes (recall, understanding, synthesis) and the interactive relationship of involvement with each of the three processes.


(I) INVOLVEMENT
(R) RECALL
(U) UNDERSTANDING
(S) SYNTHESIS

Required/Elective Format

It is recognized that each student will bring a wide range of background knowledge and skill to each theme and module — a result of prior study, level of maturity, family background or personal experience.

All objectives and learning expectations are required. Minimum time allocations are recommended for each theme to ensure students address each of the key elements of the curriculum and recognize the interrelationship and interdependence of the topics.


Core Curriculum (3 credits)
A. SELF-MANAGEMENT (9 HRS.)
B. WELL-BEING (9 HRS.)
C. RELATIONSHIPS (10 HRS.)
D. CAREERS AND THE WORLD OF WORK (11 HRS.)
E. INDEPENDENT LIVING (12 HRS.)
F. HUMAN SEXUALITY (12 HRS.)
ELECTIVE TIME
Required Time (80%)
Elective Time (20%)

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[1] Adapted from the model proposed by Richard W. Strong, Harvey F. Silver and Robert Hanson.

Elective time may be used to help support and provide reinforcement in a particular learning expectation or objective where students have limited background or skill. Some students will need enrichment, if they are already able to reach the level(s) of learning processes designated for the learning expectations.

Human sexuality may be integrated into the 3-credit compulsory course.

CURRICULUM INTEGRATION

The objectives and learning expectations defined for the core and optional curriculum are designed to integrate three generic skills:

- skills in thinking and learning
- skills in communicating
- skills in dealing with feelings.

In addition, the following concepts are addressed in each theme and module:

- building awareness and understanding of the knowledge base fundamental to the theme or module
- defining and practising a personal decision-making model
- recognizing personal rights and responsibilities
- dealing positively with personal and social issues
- identifying personal sources of support
- recognizing and planning for personal choices and challenges.

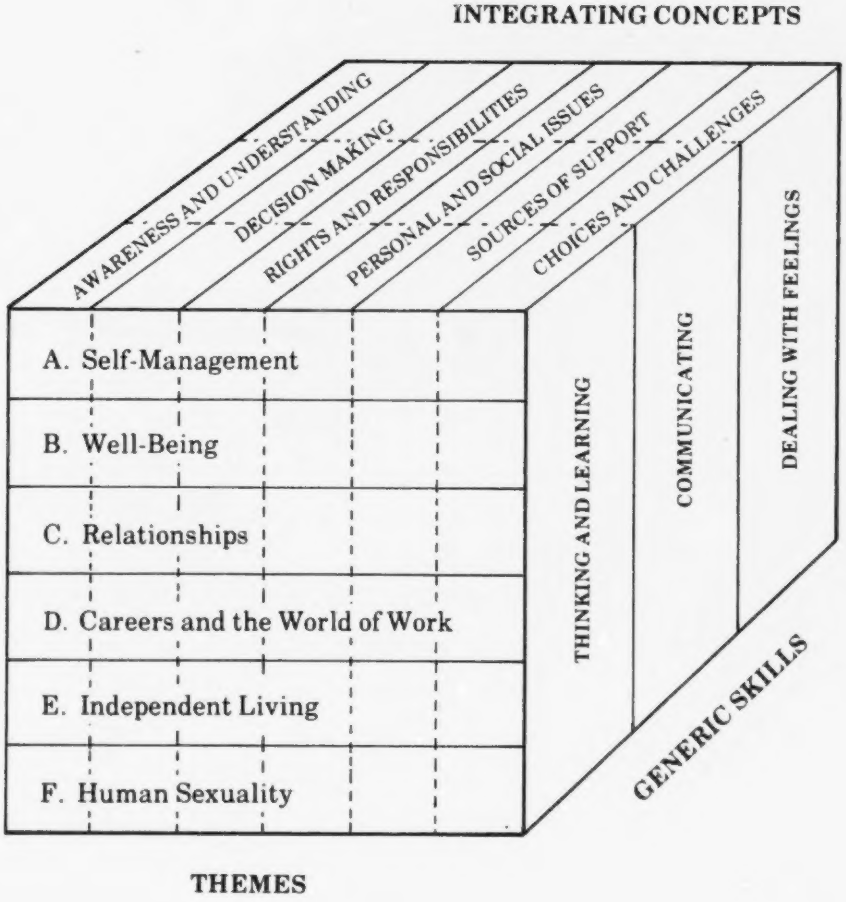
Each theme and module concludes with a sub-theme called "Choices and Challenges" which provides an opportunity for students to consolidate and reinforce topics that have been dealt with previously.

In Choices and Challenges students should:

- reflect on previous choices (decisions)
- reassess their strengths, talents and aptitudes
- define one or more challenge(s) they presently face (or may face in the near future)
- prepare a plan of action to deal with the defined challenge(s).

It is recommended that, in general, students direct their skills and knowledge to meet challenges that are important to them at this time. As the course progresses, the challenges identified should gradually assume a long-term perspective, and the action plans should reflect that perspective.

INTEGRATION OF THEMES, CONCEPTS AND GENERIC SKILLS


INTEGRATING CONCEPTS
AWARENESS AND UNDERSTANDING
DECISION MAKING
RIGHTS AND RESPONSIBILITIES
PERSONAL AND SOCIAL ISSUES
SOURCES OF SUPPORT
CHOICES AND CHALLENGES
A. Self-Management
B. Well-Being
C. Relationships
D. Careers and the World of Work
E. Independent Living
F. Human Sexuality
THINKING AND LEARNING
COMMUNICATING
DEALING WITH FEELINGS
GENERIC SKILLS
THEMES

4 6

STUDENT LEARNING OUTCOMES

CORE CURRICULUM

Theme A: Self-Management

Theme Objectives

The student:

1. *increases self-awareness through appraising and accepting strengths, talents, aptitudes and limitations*
2. *recognizes how to maintain and enhance self-worth*
3. *develops flexibility in applying a variety of strategies to cope with the challenges, frustrations and conflicts of daily living*
4. *develops understanding of personal feelings, and builds skills in communicating these appropriately*
5. *builds awareness of personal thinking processes and strategies, and applies that knowledge in areas such as decision making*
6. *improves study and time management skills, and recognizes that these skills will help one meet personal goals*
7. *builds skill and develops strategies to direct personal resources to respond to the challenge of change.*

Learning Expectations

The student:

1. Building Communication Skills

recognizes that effective communication skills are essential for personal success in:

- expressing oneself
- relating to others (U)

identifies and evaluates communication skills and styles that are:

- verbal and non-verbal
- formal and informal (R/U/I)

reviews and builds communication skills:

- listening
- paraphrasing
- questioning
- giving and receiving feedback
- recognizing communication barriers
- being assertive versus being aggressive (U/S)

demonstrates appropriate methods of expressing feelings, ideas and needs (S).

2. Building Self-Awareness

understands that change is continual (U)

2.1 Self-Assessment

reviews and evaluates personal abilities, interests, limitations, personality, values and cultural background (U/S)

reviews and assesses how expectations held by others affect self-concept (I/U/S)

distinguishes between ideal self, self-concept and others' perception of self (U).

2.2 Feeling

develops an understanding of the multiplicity and range of one's feelings and assesses how feelings affect behaviour (U/I/S)

builds awareness of the importance of constructive expression of personal feelings (U/I).

2.3 Thinking

demonstrates an understanding of the various elements of the thinking process:

- skills
- strategies
- metacognition
- attitudes (U)

recognizes and values the effectiveness of positive thinking (I)

recognizes that individuals have various learning styles and that these styles can have an impact on their learning (U)

demonstrates effective study and time management skills (S).

3. Choices and Challenges

develops a personal decision-making (self-management) model (S)

recognizes the need for flexibility (I/U)

compares long-term and short-term planning (I/U)

identifies and evaluates current personal goals (I/U)

recognizes and values the benefits of a pro-active approach to decision making (I)

recognizes the need to take the initiative in implementing life decisions (U).

Theme B: Well-Being

Theme Objectives

The student:

1. *understands the nature of well-being*
2. *recognizes that attaining well-being is a dynamic process influenced by internal and external forces*
3. *recognizes that personal well-being is predominantly determined by one's lifestyle choices*
4. *recognizes the need to accept personal responsibility for decision making in attaining, maintaining and promoting optimal levels of well-being*
5. *develops a personal action plan for well-being.*

Learning Expectations

The student:

1. Nature of Well-Being and Healthy Lifestyle

recognizes the various aspects of well-being:

- psychological
- intellectual
- social
- spiritual
- physical
- environmental
- cultural/ethnic
- societal (R/S)

recognizes the interdependence of the various aspects of well-being and healthy lifestyle (S)

recognizes characteristics of well-being (R/U/S).

2. Factors Affecting Personal Well-Being

examines positive and negative factors and issues that affect the individual's sense of well-being and promotes a healthy lifestyle (U/S)

builds awareness of health concerns that are prevalent in society:

- nutrition
- exercise
- substance use and abuse
- stress (R).

3. Maintaining and Enhancing Personal Well-Being

develops strategies for assessing and maintaining personal health and healthy lifestyle (S)

evaluates health information and products (S) recognizes the role of community services in assessing and maintaining individual and societal well-being and is able to access community resources (I)

recognizes that different behaviours may involve varying degrees of risk to one's health (I).

4. Choices and Challenges

   identifies strategies that could be used to improve well-being (goal setting) (S)

   reviews criteria for assessing one's personal well-being (S)

   develops and implements a personal action plan designed to improve one or more aspects of well-being (S).

Theme C: Relationships

Theme Objectives

The student:

1. *identifies and explores the interaction that occurs within and between relationships*
2. *identifies expectations and commitments involved in various relationships*
3. *explores issues within relationships and develops skills to adapt to required changes*
4. *develops those skills, attitudes and behaviours that promote effective relationships*
5. *recognizes that with increased knowledge of significant others, one is likely to improve the quality of one's relationships.*

Learning Expectations

The student:

1. Understanding Relationships

   identifies and compares various types of relationships

   - personal:
     - significant others
     - groups
   - impersonal:
     - environment
     - material goods (U/I)

   recognizes that personal relationships involve varying degrees of dependence and independence:

   - parent/child
   - friend/friend
   - teacher/student
   - employer/employee (U).

2. Recognizing Commitments and Expectations

   recognizes that different levels of intimacy will evolve from varying levels of commitment and expectation:

   - social
   - mental
   - physical
   - emotional (U)

   explores how personal and lifestyle needs can be met within stable and satisfying relationships:

   - physical
   - social
   - emotional
   - financial
   - intellectual
   - spiritual (I/U)

   recognizes the variety of roles that can be assumed within a life cycle (U)

   assesses the influence of stereotyping on relationships: gender, age, culture, role expectations (I/U)

   recognizes the legal rights and responsibilities of individuals within relationships (R).

3. Developing, Maintaining and Enhancing Stable and Satisfying Relationships

   recognizes that all relationships continually change (U)

   identifies ways in which relationships are developed, maintained and enhanced at various stages of the life cycle and across age groups (U)

   recognizes the effects of conflict and stress on relationships (U)

   applies skills for constructively resolving conflict and stress (S)

   identifies strategies to enhance relationships (U)

   recognizes that some problems within relationships may not necessarily be resolved at a particular time (U).

4. Dealing with Grief and Loss

   recognizes how individuals deal with the grief and loss process (U)

   identifies skills for dealing with change, grief and loss (I).

5. Choices and Challenges

   identifies and explores significant issues that evolve within relationships (U/I)

   identifies a personal relationship network that supports personal needs, goals and responsibilities (R/S)

   prepares an action plan for developing, enhancing or ending a relationship (S).

Theme D: Careers and the World of Work

Theme Objectives

The student:

1. *explores the meaning of work and recognizes how work relates to life*
2. *identifies the requirements of a satisfying occupation within a personal framework*
3. *develops the competencies required for effective career planning*
4. *examines the relationship between career planning and lifestyle*
5. *builds skills in preparing for, obtaining and advancing in a chosen occupational field*
6. *develops interpersonal skills that will lead toward positive relationships on the job*
7. *assesses fundamental rights and responsibilities of employees and employers*
8. *formulates a personal career plan*
9. *develops skills in coping with change as it impacts on personal career plans.*

Learning Expectations

The student:

1. Career Planning Process

   defines the career planning process:

   - developing a personal profile
   - exploring the world of work (occupational profile)
   - establishing a personal plan
   - implementing the plan (U)

   reviews the concepts of:

   - work
   - job
   - career
   - occupation
   - career planning
   - lifestyle planning (U).

2. Personal Career Plan

   2.1 Personal Profile

   recognizes how aspirations, aptitudes, attitudes and values affect job satisfaction and career planning (S) develops skills in personal self-assessment (I)

recognizes the interrelationship of occupational choice and personal lifestyle preferences (U/S)

relates skills developed through daily living to career opportunities (U).

2.2 Occupational Profile

explores occupational choices, using informational research skills:

- educational institutions
- training opportunities
- occupational entry requirements
- self-employment, entrepreneurship (R)

obtains and interprets information on future trends in employment:

- technological
- social (R/U)

explores potential occupational options:

- employee/employer (entrepreneurship)
- traditional/non-traditional
- part-time/job sharing (R/U)

recognizes that certain groups face barriers in the workforce (I/U).

2.3 Identifying Alternatives

identifies two or more career clusters that reflect the personal profile (U)

relates employment trends to selected career clusters (U)

recognizes that effective decision making is essential in developing a personal career plan (S)

explores available high school courses that provide further career preparation (R).

3. Establishing and Implementing a Career Plan

3.1 Job Search

develops and applies successful job search skills (S)

prepares application forms, letters, resumé, covering letter, follow-up letter (R/S)

obtains information on financial assistance for education/training after high school (R).

3.2 Job Maintenance

identifies the legal rights and responsibilities of employers and employees (R/U)

identifies the skills, attitudes and behaviours necessary for positive job maintenance (R/U)

recognizes the variety of positive alternatives to paid employment and the impact of those alternatives on occupational opportunity:

- volunteer
- barter (U).

4. Choices and Challenges

reassesses personal skills, aptitudes, talents and interests (I/U)

relates knowledge of personal lifestyle preferences to occupational choice (S)

develops two alternative personal career plans for post-secondary education, employment or training (S)

prepares a portfolio to support future career activities (S).

Theme E: Independent Living

Theme Objectives

The student:

1. *develops conscious planning and decision-making skills to make lifestyle choices that lead to personal satisfaction*
2. *accepts responsibility for the consequences of personal decisions*
3. *develops skills and knowledge required to derive optimal value from the use of resources*
4. *develops survival skills related to consumer interactions in the marketplace.*

Learning Expectations

The student:

1. Lifestyle Choices

recognizes the range of lifestyle choices (U)

clarifies personal values relating to lifestyle (I)

analyzes sources of lifestyle expectations (U)

recognizes the impact of parenting on lifestyle choices (U/I)

distinguishes between wants and needs (U)

identifies resources that can be applied to meet lifestyle choices (R)

recognizes that a combination of individual resources can be used to meet personal needs and wants (S)

recognizes that the availability of resources varies throughout the life cycle (U).

2. Personal Financial Management

2.1 Planning

understands gross and net income (U)

identifies components of a personal financial plan (U)

relates lifestyle choice to personal financial plan (I)

records expenses:

- fixed
- flexible
- discretionary (R)

differentiates between saving for irregular annual expenses, saving for major purchases, long-term savings and retirement (U)

prepares a budget (S).

2.2 Financial Institutions

recognizes available banking options:

- types of financial institutions
- security of investments
- types of accounts
- factors affecting choice of financial institution (R/U)

demonstrates efficient banking skills:

- writing cheques
- recording cheques and deposits
- reconciling a bank statement (R).

2.3 Consumer Advocacy

identifies strategies for dealing with consumer concerns (U).

2.4 Credit

examines the implications of using credit:

- availability and sources
- ratings
- contracts
- costs (R/U)

412

identifies appropriate uses of credit:

- personal attitude toward debt
- short- and long-term goals (I).

2.5 Insurance

recognizes the need for insurance (I/U)

identifies the types of insurance:

- car
- life
- home/contents
- disability (R).

3. Choices and Challenges

formulates short- and long-term goals relating to lifestyle and career (I/S)

develops a personal action plan for the accomplishment of defined goals of independent living (I/S).

Theme F: Human Sexuality[1]

Theme Objectives

The student:

1. *develops an understanding and awareness of the dimensions of human sexuality within the perspective of a whole person*
2. *builds awareness of developing sexuality (physical, psychological, emotional and social) and reviews strategies for health adjustment to accommodate these changes*
3. *develops an information base enabling responsible decisions about sexual behaviour*
4. *builds communication skills in order to increase and improve discussion with parents, teachers and peers on matters of sexuality*
5. *recognizes that decisions as a sexual being affect personal and interpersonal life plans.*

Learning Expectations

The student:

1. Self-Management

distinguishes between sex and sexuality (R/U)

recognizes that individuals' perceptions and expressions of masculinity and femininity differ (U)

contributes to the development of a comfortable, trusting environment when discussing sexuality issues (S)

uses appropriate vocabulary when discussing sexuality (S).

2. Well-Being

has accurate knowledge of anatomy and physiology and is able to apply terms appropriately when discussing human sexuality (R)

recognizes the importance of making informed choices on personal health care, specifically in the area of reproductive health:

- unplanned pregnancy
- alcohol and drug usage
- sexually transmitted diseases
- contraception (U/I)

identifies health practices for maintaining individual health (I/S).

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[1] Parents may withdraw students from the human sexuality theme by submitting a letter to the school indicating their intention to do so. It is recommended that prior to teaching this theme, parents be fully informed of the objectives and resources that will be used.

3. Relationships

examines attitudes about social and sexual relationships (e.g., platonic, dating, extended family) (I)

identifies the range of behaviours that are encompassed by the term sexual activity (U)

recognizes that social and sexual relationships involve:

- different levels of intimacy
- varying commitments and expectations
- varying degrees of choice
- responsible decision making
- open communication
- varying degrees of trust (U)

identifies support systems that are available for issues related to human sexuality:

- peers
- family
- community agencies (I/S)

distinguishes between friendship, infatuation and love (U)

examines the value of maintaining a balance in one's relationships (I)

understands some of the factors that may lead to sexual activity

internal pressures:

- changes due to puberty — physical, emotional, mental
- physical responses

external pressures:

- peer pressure
- family/societal
- lifestyle choice
- alcohol and drug usage (U)

develops an awareness of how sexual messages are communicated (U)

identifies ways to cope with pressures that can lead to sexual activity (S)

evaluates the responsibilities and consequences that may result when a choice has been made to be sexually active:

- contact STD
- choice to use contraceptives
- choice to marry
- unplanned pregnancy
- choice to cohabit (I)

builds techniques for communicating effectively and managing stress related to social or sexual relationships:

- ending relationships
- loneliness
- saying "no" (S)

recognizes the existence of sexual exploitation and discusses social and emotional effects:

- sexual assault
- pornography
- family violence (R/U/I).

4. Within the Workplace

recognizes how sex stereotyping occurs (U)

examines the impact of sex stereotyping in the work environment and on career (U/I)

develops strategies for resolving problems resulting from sex stereotyping and sexual harassment (S).

5. Choices and Challenges

recognizes that sexual decisions can define lifestyle (U)

identifies options to unplanned pregnancy:

- marriage
- adoption (private/public)
- abortion
- single parenting
- shared parenting
- cohabitation (I/S)

414

recognizes the responsibilities and commitment involved in parenting:

- impact on lifestyle, career and life planning
- needs of young children
- needs of parents (I).

OPTIONAL CURRICULUM

Module 1: Dealing with Crises

Module Objectives

The student:

1. *develops strategies to cope positively with life span crises*
2. *develops strategies to cope positively with situational crises*
3. *recognizes the significance of self-management in dealing effectively with change and crises*
4. *recognizes that as crises occur throughout life, individuals will be affected differently and respond differently*
5. *develops an ability to recognize situations that can act as turning points in one's life*
6. *recognizes that one's response to change and crises will affect others*
7. *identifies sources of support that can assist individuals to cope with frustrations and pressures*
8. *recognizes the importance of providing support for others*
9. *builds confidence in the ability to communicate concerns*
10. *acquires a knowledge base sufficient to recognize a crisis situation in self and others.*

Learning Expectations

The student:

1. Personal Control and Self-Management

   becomes aware that individuals respond to change and challenge differently (U/I)

   identifies personal skills, characteristics and knowledge that can be applied to resolve problems, and to cope with difficult situations (I/S)

   recognizes that all individuals can have personal power to adjust to change, and to cope with problems (R)

   understands that individuals identify and deal with stress and crises in personal terms (U).

2. Pressure Points

   identifies stages in the life cycle that produce change (R/U)

   recognizes that each life stage involves different challenges and potential crises which may or may not be controllable by the individual (U/I)

   identifies and defines various situational crises of an extraordinary and unpredictable nature (R/U).

3. Maintaining Balance

   recognizes that life involves change, success, challenge, risk, opportunity, frustration and loss (U)

   identifies appropriate balances among various elements of one's life (physical, mental, spiritual, social) (I)

   recognizes the serious nature of consequences when inappropriate stress and unresolved personal issues are allowed to continue (U)

   uses effective communication skills to express concerns, problems and feelings (S).

4. Maintaining Control

identifies sources of support and/or resources that offer assistance to individuals and/or groups in dealing with crises (U/I)

identifies a personal and professional support network that can be referenced when needed (I/S)

develops personal strategies that can be applied to deal with crises:

- assertion skill development
- coping
- stress management
- time management
- communication skills (S).

5. Choices and Challenges

identifies positive and negative crises that may be personally stressful (I)

develops an action plan to deal with one or more stressful situation(s):

- short-term
- long-term (S).

Module 2: Entrepreneurship

Module Objectives

The student:

1. *understands the importance of entrepreneurship to the individual and to society*

2. *recognizes and develops an understanding of the attitudes and aptitudes needed to become an entrepreneur*

3. *develops the basic skills and acquires the knowledge that is important for successful entrepreneurial activities*

4. *investigates processes required to establish a small business*

5. *recognizes the network of support that is available to entrepreneurs*

6. *identifies potential opportunities for entrepreneurial endeavours.*

Learning Expectations

The student:

1. Understanding Entrepreneurship

recognizes the impact entrepreneurship has on the economy and society (R)

identifies entrepreneurial enterprises that exist in the community (R/U)

describes the lifestyle and characteristics of an entrepreneur (R/U/I)

identifies major forms of business ownership:

- single proprietorship
- partnership
- cooperative
- corporation (R/U).

2. Idea Generation

recognizes the components of idea generation for entrepreneurial initiatives (lateral thinking) (R)

identifies entrepreneurial opportunities (local, regional, national, international) (R)

develops skills in recognizing and encouraging an entrepreneurial environment (S)

identifies entry-level entrepreneurial opportunities (I)

recognizes opportunities for idea generation through networking, sharing experiences and ideas (U/S)

considers key operational concepts:

- contracts
- licences
- public relations
- location
- taxation
- records

- legal constraints
- advertising (U).

3. Business Plan

   selects one or more entrepreneurial opportunities (I)

   establishes a business plan (S)

   prepares a plan of action to operationalize the business plan (I/S)

   identifies the sources of support available to entrepreneurs (I).

4. Choices and Challenges

   develops an action plan to prepare for a career as an entrepreneur (S)

   discusses advantages and disadvantages of entrepreneurship as a career option (I/U).

Module 3: Consumer and Investment Choices

Module Objectives

The student:

1. *recognizes the interrelationship of personal goal setting, decision making and effective consumer and investment choices*
2. *develops skills and knowledge to improve consumer and investment decision making*
3. *identifies strategies that allow wise use of financial and personal resources for immediate and deferred wants and needs*
4. *recognizes the rights and responsibilities involved in consumer and investment decisions*
5. *increases ability to modify consumer and investment plans in response to changes in goals, lifestyle and access to resources*
6. *improves ability to communicate concerns, and to make plans related to consumer and investment choices.*

Learning Expectations

The student:

1. Financial Goal Setting

   recognizes that consumer and investment choices and opportunities are based on personal decision making (U)

   assesses present net worth (U)

   reviews short-term financial goals (R)

   determines long-term financial goals (I).

2. Personal Investment Considerations

   practises correct use of terms related to investment (R/U)

   recognizes the interplay among the investment characteristics:

   - risk
   - return
   - liquidity
   - term (R)

   recognizes that investment characteristics apply to consumer purchases and investment choices (U)

   recognizes that the value of investments may appreciate or depreciate (U)

   assesses the advantages and disadvantages of eliminating or reducing debts as the first stage of developing a personal investment plan (U)

   identifies commitments related to investment transactions:

   - financial
   - contractual
   - ethical (U)

   examines the implications of entering into a contract (U).

3. Types of Investment

3.1 Wise Consumer Decision Making

identifies the factors that affect consumer buying of goods and services (U)

identifies and assesses sources of consumer information and assistance (I/S)

demonstrates an ability to resolve consumer concerns in a positive manner (S)

develops skills in wise shopping for goods and services:

- timing of purchase
- location
- display
- size and cost comparison
- research versus impulse (S)

assesses the influence of advertising on consumer choice (R/U)

distinguishes between consumer rights and consumer responsibilities (U/I).

3.2 Debt Investment

defines debt investment (R)

examines the difference between non-traded debt investment and traded debt investment (U)

non-traded debt investments:

- demand accounts
- term deposits
- guaranteed investment certificates

traded debt investments:

- bonds
- debentures
- treasury bills.

3.3 Equity Investment

defines equity investment (R)

examines the difference between common shares and preferred shares (U)

differentiates among growth, blue chip and speculative shares (U).

3.4 Other Investments

identifies advantages and disadvantages of other investment opportunities:

- mutual funds
- real estate
- precious metals
- collectables
- insurance (U).

4. Tax Implications

completes simulation of a personal tax return (S)

identifies strategies for reducing personal income tax (S)

analyzes the impact of investments on personal taxes (U).

5. Choices and Challenges

correlates personal risk-taking preferences with investment/speculation decisions (S)

completes one or more projects that support personal consumer and investment goals:

- designs a balanced personal investment portfolio
- outlines a plan of action for a major consumer purchase
- prepares a comparative shopping report
- simulates the management of a set sum of money for a designated period; e.g., $5,000 for 6 months (S).

Module 4: Cultural Bridges

Module Objectives

The student:

1. *identifies options and considers realistic choices about how the relationships among the cultures in which they function can be defined*
2. *gains a deeper understanding and appreciation of heritage cultures and increased sensitivity to the issues that affect individuals from a heritage culture*
3. *identifies and recognizes the similarities, differences and strengths of the cultures that have impact on the individual*
4. *develops confidence in the ability to make decisions that will determine one's future*
5. *develops the ability to apply communication skills and behaviours that are appropriate to each of two cultures*
6. *recognizes sources of support within two cultures*
7. *builds self-esteem*
8. *develops practical strategies for dealing with the stresses that can result from the need to define a personal relationship within one or more cultures.*

Learning Expectations

The student:

1. Building Cultural Foundations

   compares and contrasts the real and perceived differences between two cultures:

   - values
   - lifestyles
   - traditions (customs)
   - beliefs
   - way of making life decisions (U)

   recognizes that the sense of identity is a function of cultural foundation, daily decision making and perceived role in life (R/U)

   recognizes that the individual's sense of identity arises from the interaction of:

   - the cultural foundation
   - the environment
   - self-concept
   - personal action planning (U).

2. Self-Assessment

   recognizes how additional expectations from the heritage cultures affect self-concept:

   - ideal self
   - self-image
   - others' perception of self (R/U)

   recognizes how the varying perceptions from the mainstream culture affect one's self-concept (R/U)

   develops awareness of the potential conflict of values when functioning biculturally (U)

   identifies personal communication skills and styles that affect the communication between individuals from two different cultures (R/U)

   builds skill in improving communication blocks:

   - reducing blocks
   - expressing opinion (S)

   investigates expectations for change:

   - acceptance of self
   - desire for change
   - access to support systems (U/I).

3. Improving Personal Well-Being

   recognizes that attitudes are determining factors in the development of well-being (U/I) identifies how various cultures define well-being (U)

recognizes that attitudes are affected by background and perception:

- spiritual
- physical
- emotional
- mental (R/U)

considers strategies and behaviours that will improve the individual's health and sense of well-being (I/S).

4. Personal Relationships Among Cultures

identifies the groups and individuals within a heritage culture that:

- provide counselling and guidance
- assist in setting short- and long-term goals
- define rights and responsibilities (I)

recognizes appropriate strategies for:

- expressing opinion
- dealing with conflict
- resolving value conflicts (I/S)

considers alternatives for dealing with and responding to:

- aggression
- recognition
- frustration
- challenge
- discrimination (S)

recognizes that there are varying levels of acceptance of others (U)

- willingness to share

identifies personal priorities and compares these with others within and outside a heritage culture:

- commitment to family ties
- commitment to maintaining the culture (I/S)

discusses traditions and practices relating to:

- dating
- marriage
- child rearing (U/I).

5. Choices and Challenges

5.1 Expanding Career Choices

investigates potential career options (I)

discusses advantages and disadvantages of being bicultural when making career choices (U/I)

examines strategies for maintaining employment and developing career opportunities (U)

relates career opportunities to short- and long-term goals (S).

5.2 Meeting the Challenge for Independence

identifies resources available within two cultures that can assist the individual to live independently in an interdependent world (U/I)

compares strategies for resource management used by each culture:

- financial
- human
- environment
- community (U/S)

recognizes the need to adapt to changes that occur, and develops personal strategies to cope with the changes (U/S).

BASIC LEARNING RESOURCES

Core Curriculum

Bessert, Carol et al. *Strategies for Career and Life Management*. Edmonton, AB: Weigl Publishing Limited, 1988.

ISBN 091987939X

Cairns, K. et al. *Life Choices Simulation Program*. Calgary, AB: Institute of Computer Assisted Learning, University of Calgary, 1986.

ISBN S5900, S5901, S5902

Choices. Ottawa, ON: Canada Employment and Immigration, 1987.

Meeks-Mitchell, Linda and Philip Heit. *Sexuality: A Responsible Approach*. Canadian edition. Charles E. Merrill Publishing, 1988. [Student and Teacher Reference]

ISBN 067507858X

Optional Curriculum

Module 1: Dealing with Crises

Mills, James W. *Coping with Stress: A Guide to Living*. New York, NY: John Wiley and Sons, 1982. [Teacher Reference]

ISBN 047187678X

Module 2: Entrepreneurship

Jennings, William J. *Entrepreneurship: A Primer for Canadians*. Canadian Foundation for Economic Education, 1985. [Student Reference]

Module 3: Consumer and Investment Choices

Alberta Consumer and Corporate Affairs, Consumer Education and Information. *2000 A.D. – A Guide to Financial Awareness*. 1986. [Student Reference]

OCCUPATIONS 10

OBJECTIVES

1. To relate satisfactory work habits formed in school to possible success on the job.
2. To focus attention on the importance of desirable attitudes toward the world of work.
3. To encourage an awareness by the student of the changing nature of employment and its possible relationship to him or her.
4. To encourage each student to select a vocational area related to abilities and interests.
5. To focus on career ladders.

CONTENT

Unit I — Adequate Preparation

A. Career planning

   1. Types of planning
   2. Significance of course choice

B. The importance of an education

   1. The reasons people drop out of school
   2. The experiences the drop-out encounters
   3. What the high school graduate brings to employment
   4. Dropping back into educational training

Unit II — Occupational Exploration

A. Occupations ahead

   1. Survey of Alberta occupational fields
   2. The Canadian occupational picture

B. Classifications of occupations

   1. Dominion Bureau of Statistics classifications
   2. *Canadian Dictionary of Occupational Titles*
   3. Demand occupations

C. Investigation of a particular occupation

   1. Need for occupational surveys
   2. Basic outline for the study of an occupation

D. Investigation of an industry

   1. Influence of the business/industry picture on career planning
   2. Adaptability essential in business/industry

Unit III — Opportunities for Training

A. Kinds of training

1. Universities
2. Institutes of technology
3. Adult vocational centres
4. Apprenticeships
5. Junior colleges
6. Private colleges
7. In-house training

B. Financial assistance for training

1. *Students Finance Act*
2. Scholarships
3. Subsidized programs/courses

Unit IV — The Individual and the Job

A. Analysis of interests and abilities

1. Interests and the job
2. Abilities and the job

B. Relationship of social and emotional characteristics to the job

1. Social characteristics and the job
2. Personal characteristics and the job

C. Safety

1. Guidelines to developing school jurisdiction health and safety policy
2. First aid
3. Effective safety programs
    a. unsafe acts
    b. unsafe conditions
4. Documentation of safety programs
    a. safety instructions
    b. safe operations

D. Substance abuse

1. Historical background
2. Reasons
3. Effects in industry and the professions
4. Effects upon individuals
5. Rehabilitation

E. Legislation

1. *Workers' Compensation Act*
2. Workplace Hazardous Materials Information System (WHMIS)
3. *Individual's Rights Protection Act*
4. *Labour Relations Act*
5. *Manpower Act*
6. Canadian Labour Code
7. *Occupational Health and Safety Act*
8. Employment Standards Code
9. *Employment Standards Act*

BASIC LEARNING RESOURCES

There are no basic learning resources for Occupations 10 at the present time.

PHYSICAL EDUCATION 10-20-30

The 1988 program of studies permits Physical Education 10–20–30 to be offered for 3, 4 or 5 credits.

PROGRAM RATIONALE AND PHILOSOPHY

Alberta's secondary schooling process is comprised of a variety of subjects and experiences designed to help all students reach their fullest potential. While the unique contributions of physical education to the school program are motor skill development and physical fitness, physical education is concerned with the whole being and, therefore, consists of learning modes that are based upon the interrelated cognitive, affective and psychomotor behaviours of students.

The physical education program, a vital part of the schooling process, features a student-centred learning environment that attempts to meet the needs of all students in order to encourage their optimal development. The program is designed for a wide range of student abilities and, therefore, is comprised of varying activities, progressions in difficulty and standards of achievement.

Through the provision of knowledge about physical activity and the opportunity to develop physical, social and emotional skills, the physical education program is intended to foster self-initiated participation in physical activities and the formulation of a healthy lifestyle. The student-centred approach, which integrates all three learning domains, provides the opportunity for students to achieve a measure of success, and thereby to enhance their self-concept. In addition, the program has the potential to refine students' social skills in that many of the interaction skills, values and attitudes promoted by physical activity are transferable to other areas of the students' lives.

A wide variety of learning experiences were carefully structured to meet individual differences in order to ensure that this physical education program has the potential to fulfill its purpose. That is, the program provides students, regardless of ability level, with experiences that encourage them to make wise personal decisions regarding lifelong participation in physical activity. This program can contribute to an active, healthy and productive adulthood by providing students with the necessary knowledge, physical skills, social and emotional skills, and predisposition to develop and maintain physical fitness and positive attitudes toward lifelong participation in physical activity.

The student-centred philosophy permits adaptation to individual student needs and abilities, including physical and emotional differences. This objective is supported by the considerations provided in the *Junior–Senior High School Physical Education Curriculum Guide,* 1988 (Grades 7–12) which is intended to assist teachers in accommodating adolescent male and female social, emotional and physical differences, and learning needs crucial to junior and senior high school students' stages of cognitive development.

The rationale and philosophy for physical education in Alberta schools originates from The Goals of Basic Education, adopted by the Alberta Legislative Assembly in 1978, and The Goals of Secondary Education from the *Secondary Education in Alberta* policy statement of June 1985.

GOALS AND LEARNER OUTCOMES OF SECONDARY PHYSICAL EDUCATION

Goal 1

The physical education program should assist the student's individual development of motor skills that are effective, efficient and applicable to a wide variety of physical activities.

Learner Outcomes

To the extent of their own unique ability, *students will develop*:

1. locomotor, non-locomotor and manipulative skills in a wide variety of physical activities suitable for developmental and recreational purposes
2. the ability to define, analyze and solve movement problems inherent in a wide variety of physical activities suitable for developmental and recreational purposes.

Goal 2

The physical education program should assist the student to develop, monitor and maintain an appropriate individual fitness level.

Learner Outcomes

To the extent of their own unique ability, *students will develop*:

1. the ability to participate in vigorous activity
2. appropriate physical fitness in the areas of cardiorespiratory endurance, muscular endurance, strength and flexibility
3. the ability to assess and monitor personal physical fitness needs, and to design a safe program to meet these needs.

Goal 3

The physical education program should assist the student to understand concepts basic to physical movement, and to apply this understanding to a variety of physical activities.

Learner Outcomes

To the extent of their own unique ability, *students will develop*:

1. physical skills, physical fitness, and understanding of scientific principles of movement and the relationship of exercise to personal well-being
2. knowledge of rules, techniques, strategies and mechanical, physiological and psychological concepts as they relate to various physical activities
3. essential safety skills, practices and techniques necessary in physical activity.

Goal 4

The physical education program will assist the student to develop positive personal attributes.

Learner Outcomes

Students will develop:

1. a positive, realistic self-image, understanding and accepting themselves with their strengths and limitations
2. a positive and responsible attitude toward, and independence in, pursuing a wide variety of desirable recreational habits, interests and skills that will lead to wise and satisfying use of leisure time
3. a sense of achievement, joy, pleasure and satisfaction in life through a variety of wholesome physical activities

4. a sensitivity toward and appreciation of the beauty of skilled movement
5. an appreciation of their own growth and development in social, emotional, ethical and physical areas.

Goal 5

The physical education program will assist the student to develop positive interpersonal skills transferable to other areas of their lives.

Learner Outcomes

Students will develop:

1. appreciation of the worth of others and respect for their rights
2. consideration and understanding of the needs, strengths and limitations of others
3. attitudes and skills of cooperation and conciliation essential to fair play, competition and team interaction, as well as to leadership and the ability to follow a leader
4. appreciation of and ability to act in accord with game etiquette and the values of loyalty, honesty, dependability, kindness and generosity.

CONTENT

Secondary Physical Education Program Model

The secondary physical education program is comprised of seven dimensions: aquatics, dance, fitness, games, gymnastics, individual activities and outdoor pursuits. By engaging in a balanced selection of activities drawn from each dimension at levels appropriate to each student's unique ability and aptitude, students will develop their physical skills, knowledge of physical movement, positive personal attributes and interpersonal skills and attitudes. Confidence, respect for oneself and others, and a predisposition toward lifelong engagement in physical activity, with the attendant rewards of health, self-esteem and positive social relationships, are the long-term objectives of the physical education program.

Program Balance

A well-balanced program provides opportunities for students to participate in activities from all seven dimensions, appreciating local or individual considerations such as access to facilities, religious persuasion or health. A balanced physical education program drawn from each of the seven dimensions will provide a broad and varied program of physical education.

Activity selection and time allocation will be determined by the needs and development of the students, by the program objectives and by many other factors.

The balance may also differ from grade to grade depending on such factors as individual needs, time and facilities.

APPLICATION OF THE SECONDARY PHYSICAL EDUCATION PROGRAM

The senior high physical education program is an extension of the Grade 7 through Grade 9 program and is intended to provide students in Grade 10 through Grade 12 with an opportunity to further their development of skills in a variety of physical activities at levels of proficiency reflective of each student's unique abilities. It is therefore mandatory that all seven dimensions of the program be addressed in the required component of each course in Grade 10, notwithstanding the exemptions specified below.

Because of the greater proficiency of skills of most students who pursue the complementary 20 and 30 courses, the study of all seven dimensions is not required at the complementary level. However, the fitness dimension must be included in both Physical Education 20 and 30. The complementary physical education program should accommodate a variety of student needs, interests and abilities, and should aim at a balance of many dimensions rather than over-emphasis on one aspect of the program.

The core and complementary program models are presented on page 6.

Required/Elective Components

Each dimension of the Grade 10 physical education program must receive no less than 10% of the available instructional time at each grade level. The required component of 80% of the available instructional time therefore allows the remaining 10% to be used for extension of one or more dimensions. The 20% elective component can be applied to one or more of the dimensions for enrichment or remediation. This 20% is not an addendum to the required component but should be used throughout the duration of the course as indicated by student needs and interests.

At the Grade 11 and Grade 12 level, 70% of the total instructional time should be devoted to the required component of the program, and 30% to the elective. The elective may be used to extend the required component, to address dimensions not incorporated into the required component, or to provide special emphases.

Exemptions

As an integral part of the well-balanced physical education program, each dimension uses carefully selected activities to contribute to the development of the physically educated individual. In the following specified circumstances, however, exemptions may be warranted.

PROGRAM EXEMPTIONS

Category	Conditions for Exemption	Procedures and Approval Process	Alternative Experiences
Individual	1. Religious beliefs	1. Statement in writing from parent to principal.	• When exemption is granted, alternative activities consistent with the goals and objectives of the physical education program should be substituted where practicable.
	2. Medical	2. Certification by medical officer with statement of activities to be avoided.	
Class, grade, school	• Access to facilities • Religious beliefs	• Initiated by board or parents. • Approved by local school board or school governing authority. • Exemption shall be registered on the Secondary School Program Plan and approved by the Alberta Education regional office serving the area.	

Variable Credit Programming

Physical education at the senior high school level permits variable credit programming and requires a demonstrated progression of learning between each of the senior high grades. Because the program accommodates a wide variation of student ability levels, students from all program routes should be able to participate successfully in Physical Education 10.

The choice to offer Physical Education 10, 20 or 30 for 3, 4 or 5 credits is accommodated by placing the required minimum percentage of time per dimension (e.g., 10%) against a 75-, 100- or 125-hour time frame. The emphasis on each dimension within the required component remains constant while the time and credit values vary.

Complementary Secondary Physical Education Program

Physical Education 20–30 are complementary courses (i.e., optional) but may be used to fulfill additional credit requirements for the Advanced or General High School Diplomas. The prerequisite nature of the Physical Education 10–20–30 sequence requires increased complexity of physical, cognitive or affective demands and differentiated content at each successive grade level. Credits are awarded on the basis that the experience provided at each grade is differentiated from the previous grade and that performance expectations increase hierarchically. A logical and articulated transition in scope and sequence of content is also required. Dimensions included for additional study should contain some activities never before covered. Activities that were studied from Grade 7 through Grade 10 should be covered at a more sophisticated level.

Physical Education 20 will build upon the skills of students entering from Physical Education 10, but will provide opportunity for further expansion and depth of learning. Physical Education 30 will be an extension, but not a duplication of the Physical Education 20 program. The articulated 10–20–30 program should culminate in Physical Education 30.

The program models for the core physical education program (Grade 10), and the complementary physical education program (Grade 11 and Grade 12), are presented below.

CORE PHYSICAL EDUCATION PROGRAM

<table>
<tr><th colspan="2">Physical Education 10</th></tr>
<tr><td>Required* 80%
1. Aquatics
2. Dance
3. Fitness
4. Games A and B
5. Gymnastics
6. Individual activities
7. Outdoor pursuits</td><td>Elective 20%
The 20% elective time can be used for remediation or enrichment of the required program content.</td></tr>
</table>

*No less than 10% of the instructional time must be allocated to each dimension in the required component of the Grade 10 program. This allows 10% flexibility for extension of one or more dimensions in the required component of the program.

COMPLEMENTARY PHYSICAL EDUCATION PROGRAM

<table>
<tr><th colspan="2">Physical Education 20</th></tr>
<tr><td>Required 70%
1. Fitness
2. A minimum of three other dimensions
• aquatics
• dance
• games
• gymnastics
• individual activities
• outdoor pursuits</td><td>Elective 30%
1. The 30% elective time can be applied to an extension of the required component.
2. The 30% elective time can be applied to one or more of the remaining dimensions not used to make up the 70% required component.
3. Instruction may include special emphasis on such areas as: contemporary issues, officiating, leadership, history, sports medicine, anatomy, kinesiology, etc.</td></tr>
</table>

<table>
<tr><th colspan="2">Physical Education 30</th></tr>
<tr><td>Required 70%
1. Fitness
2. A minimum of two other dimensions
• aquatics
• dance
• games
• gymnastics
• individual activities
• outdoor pursuits</td><td>Elective 30%
1. The 30% elective time can be applied to an extension of the required component.
2. The 30% elective time can be applied to one or more of the remaining dimensions not used to make up the 70% required component.
3. Instruction may include special emphasis on such areas as: contemporary issues, officiating, leadership, history, sports medicine, anatomy, kinesiology, etc.</td></tr>
</table>

SKILL PROGRESSION WITHIN EACH ACTIVITY

The skills for each activity are developed into four sequential levels. The activities and levels are presented in the *Junior-Senior High School Physical Education Curriculum Guide*, 1988 (Grades 7-12). Each level may serve as a stage to introduce and develop some of the necessary skills. Subsequent levels should reinforce the existing skills.

It should be noted that neither the skills nor levels are intended to be rigidly interpreted. They serve as guides for teachers in the modification and development of programs tailored to their individual circumstances.

The progressions suggested should not be tied to grade levels, as they merely represent a suggested sequence. Activity instruction normally begins with simple activities and progresses to the more complex. Starting points and progressions are dependent upon individual participants and are not necessarily determined by grade level. Natural ability and skills gained from previous learning experiences both in and out of school need to be assessed in order to develop a program based on individual student needs.

Learner Outcomes

Each of the seven dimensions has objectives that identify the related knowledge, attitudes, and physical and social skills outcomes. Each dimension provides:

P – Psychomotor Development
C – Cognitive Development
A – Affective Development

The major outcomes for each objective listed below are noted in the left-hand margin as P, C and A.

Aquatics

Aquatics emphasizes the use of a unique environment to promote the safe pursuit of water-related activities. Activities included are: diving, lifesaving, skin diving, swimming, synchronized swimming, water games and water safety.

Aquatics is considered a vital dimension of a well planned physical education program. A minimum of at least one exposure to a water and water safety program is suggested during the secondary years. Decisions as to when that experience should occur will depend upon the time needed, the availability of a facility, qualified personnel and transportation.

Each dimension provides psychomotor (P), cognitive (C) and affective (A) development. The following outcomes identify the knowledge, attitudes, and physical and social skills related to the aquatics dimension. Acknowledging individual differences, *each student will develop*:

P/A 1. the ability to feel comfortable and confident in the water while displaying principles of buoyancy, propulsion techniques, water entries and drownproofing skills

P 2. the ability to swim a variety of distances and to take part in selected water games and sports

P 3. muscular strength and total fitness through participation in water activities

C 4. an understanding of safety and lifesaving skills associated with water activities

P/C 5. the ability to use self-rescue skills and to assist persons in danger on, in or near water

P/C 6. the ability to identify and participate in a variety of vigorous fitness-inducing activities that relate to or complement selected aquatic activities

C 7. an understanding of the origin and history of water activities and the terminology, mechanical principles and current developments associated with water activities

A 8. an appreciation of and respect for the water environment

A 9. an appreciation of the unique contribution of aquatics to personal fitness and to safety in lifetime water-related activities.

The dimension of aquatics may be exempted by a school, if a facility is not accessible. This should be noted under "special circumstances" on the Secondary School Program Plan.

Dance

Dance emphasizes the expressive aspect of movement. Activities included are: folk dance, modern dance, social and ballroom dance, jazz and square dance.

Each dimension provides psychomotor (P), cognitive (C) and affective (A) development. The following outcomes identify the knowledge, attitudes, and physical and social skills related to the dance dimension. Acknowledging individual differences, *each student will develop*:

P 1. body awareness, space awareness and quality of movement associated with one or more of folk, social, square, modern or jazz dance

P/C 2. the ability to create and perform individual, partner and/or group dance compositions in one or more dance forms with or without music

P 3. the individual physical capacity to perform dances of a vigorous nature that have the potential to contribute to total fitness

P/C 4. the ability to identify and participate in a variety of vigorous fitness-inducing activities that relate to or complement selected dance activities

P 5. the ability to participate in vigorous physical dance activities to music

C 6. an understanding of the origin and history of dance forms and the etiquette, terminology, mechanical principles and current developments in dance

C 7. an ability to analyze the various elements of rhythmical movement in dance

A 8. an appreciation of the opportunities for self-expression, creativity, individual interpretation, physical fitness and social interaction provided through various dance forms

A 9. an appreciation of dance as an enjoyable lifetime activity

A 10. social skills that promote acceptable standards of behaviour and positive relationships with others

A 11. a vital interest in the achievement and maintenance of one's personal fitness potential.

Where local conditions, such as religious persuasion, preclude offering the dance dimension on a school basis, this should be noted under "special circumstances" on the Secondary School Program Plan.

Fitness

Fitness develops the individual's ability to function at an optimal level and promotes understanding of the various body systems and how they are affected by physical activity. The pursuit of physical fitness is an integral part of the other six dimensions. Therefore, it should not be limited to independent units but should also be integrated into the other six dimensions. Activities included are: aerobics training, calisthenics, circuit training, first aid, fitness, posture and weight training.

Each dimension provides psychomotor (P), cognitive (C) and affective (A) development. The following outcomes identify the knowledge, attitudes, and physical and social skills related to the fitness dimension. Acknowledging individual differences, *each student will develop*:

P 1. the ability to participate in vigorous physical activities that will enhance personal fitness development throughout the total physical education program

P/C 2. the ability to assess and apply acceptable training principles in designing personal programs to improve the health-related components of cardiorespiratory efficiency, muscular strength, muscular endurance, flexibility, body composition and posture

P/C 3. the ability to assess and apply acceptable training principles in designing personal programs to improve the motor fitness components of agility, balance, coordination, power, reaction time and speed

P/C 4. the ability to plan, monitor and participate in a personal fitness program that demonstrates the adaptation and refinement of varying activities so they may be used in school, home or community settings

C 5. an understanding of the safety precautions common to fitness activities

C 6. an understanding of the history, terms, current developments in and components of functional motor fitness and the training principles, types of activities and benefits associated with each

C 7. an understanding of the relationship of nutrition, rest, relaxation, exercise and sports to physical fitness

C 8. a knowledge and application of the principles of first aid

A 9. an enjoyment of vigorous physical activity

A 10. a vital interest in the achievement and maintenance of one's personal fitness potential.

Games

Games emphasize projecting, receiving and retaining skills, footwork, agility and body coordination, and elements of offence and defence. Games A include: basketball, broomball, curling, field hockey, floor hockey, flag football, ice hockey, lacrosse, netball, ringette, rugby, soccer, softball, team handball and volleyball. Games B include: badminton, handball, racquetball, squash, table tennis and tennis.

Each dimension provides psychomotor (P), cognitive (C) and affective (A) development. The following outcomes identify the knowledge, attitudes, and physical and social skills related to the games dimension. Acknowledging individual differences, *each student will develop*:

P 1. the ability to use acquired physical skills in a wide variety of game situations

P 2. the ability to employ sound mechanical principles efficiently in the projection, reception and retention of objects under game conditions

P 3. the ability to apply acceptable team/individual and offensive/defensive concepts in the creation or elimination of personal and team space in game situations

P/C 4. the ability to identify and participate in a variety of vigorous fitness-inducing activities that relate to or complement selected games

P 5. an understanding of the origin and history of a variety of games and of the terminology, mechanical principles, team/individual skills, strategies and techniques employed in a variety of games

C 6. an understanding of rules, etiquette and safety precautions employed in a variety of games

A 7. an appreciation of and respect for the effort, safety and abilities of oneself, teammates, opponents, officials and instructors

A 8. an understanding and appreciation of etiquette and self-control in game situations

A 9. an appreciation of the necessity to accept leadership/followership roles in cooperative and competitive situations

A 10. confidence and a desire to attempt new games or activities

A 11. an appreciation of the role of games in the achievement and maintenance of one's personal fitness potential

A 12. social skills that promote acceptable standards of behaviour and positive relationships with others.

Gymnastics

Gymnastics activities emphasize body management skills that develop strength, flexibility and fluency of movement. Activities included are: dual balance, educational gymnastics, artistic gymnastics, modern rhythmic gymnastics, pyramid building, rope climbing, trampoline and tumbling.

Each dimension provides psychomotor (P), cognitive (C) and affective (A) development. The following outcomes identify the knowledge, attitudes, and physical and social skills related to the gymnastics dimension. Acknowledging individual differences, *each student will develop*:

P 1. the ability to perform ambidextrous movements that result in "balanced" body strength and mobility

P 2. the ability to demonstrate mechanical principles and motor patterns in the creation and performance of artistic/rhythmic/educational gymnastic sequences both on the floor and in formal/informal equipment arrangements

P 3. correct safety techniques where individual and/or cooperative assistance is appropriate

P/C 4. the ability to identify and participate in a variety of vigorous fitness-inducing activities that relate to or complement selected gymnastics activities

C 5. understanding of the origin and history of gymnastics and the etiquette, rules, terminology, safety techniques, mechanical principles and current developments that apply to gymnastics

C 6. an understanding of the factors of space, weight, time and flow as they apply to gymnastics

C 7. the ability to monitor improvement and set personal performance goals in gymnastics activities

C 8. the ability to design and evaluate gymnastic routines

A 9. an appreciation of and respect for the safety, efforts and abilities of oneself, teammates, opponents, officials and instructors

A 10. the confidence and desire to participate willingly as a performer and/or organizer in class events

A 11. perseverance, self-confidence and individual initiative

A 12. an appreciation of the role of gymnastics in the achievement and maintenance of one's personal fitness potential.

Individual Activities

Individual Activities are those which by their nature can be pursued by an individual with or without a partner or opponent. Activities included are: archery, cross-country running, five-pin bowling, ten-pin bowling, golf, track and field, weightlifting and wrestling.

Each dimension provides psychomotor (P), cognitive (C) and affective (A) development. The following outcomes identify the knowledge, attitudes, and physical and social skills related to the individual activities dimension. Acknowledging individual differences, *each student will develop*:

P 1. the basic skills, techniques and form associated with selected individual activities

P 2. the ability to use acquired physical skills in a wide variety of individual activities

P/C 3. the ability to identify and participate in a variety of fitness-inducing activities that relate to or complement selected individual activities

C 4. understanding of the origin and history of various individual activities and the etiquette, rules, terminology, safety concepts, mechanical principles and current developments that apply to various individual activities

C 5. the ability to monitor improvement and set personal goals in various individual activities

A 6. an appreciation of and respect for the safety, effort and abilities of oneself, partners, opponents, officials and instructors

A 7. confidence and a desire to attempt new individual activities

A 8. increased self-confidence, self-sufficiency and individual initiative

A 9. an appreciation of the role of individual activities in the achievement and maintenance of one's personal fitness potential.

Outdoor Pursuits

Outdoor Pursuits emphasize physical activities requiring wise and careful use of the natural environment. Activities included are: alpine skiing (downhill), backpacking/hiking, camping, canoeing, cycling, Nordic skiing (cross-country), orienteering, sailing, skating, snowshoeing and wilderness living skills.

Each dimension provides psychomotor (P), cognitive (C) and affective (A) development. The following outcomes identify the knowledge, attitudes, and physical and social skills related to the outdoor pursuits dimension. Acknowledging individual differences, *each student will develop*:

P 1. the basic skills, techniques and form associated with one or more outdoor activities

C/P 2. the ability to identify and pursue a variety of fitness-inducing activities that relate to or complement selected outdoor pursuits

C 3. an understanding of the origin and history of outdoor pursuits and the terminology, rules, safety concepts, mechanical principles and current developments that apply to outdoor pursuits

A 4. an appreciation and respect for the natural environment

A 5. an awareness of the potential of the natural environment for worthwhile lifetime outdoor pursuits in all seasons

A 6. social skills that promote acceptable standards of behaviour and positive relationships with others

A 7. increased self-confidence, self-sufficiency and individual initiative

P 8. an appreciation of the role of outdoor pursuits in the achievement and maintenance of one's personal fitness potential.

BASIC LEARNING RESOURCES

There are no basic learning resources for Physical Education 10, 20 or 30 at the present time.

DRIVER AND TRAFFIC SAFETY EDUCATION 10

RATIONALE

Most people drive a vehicle. Driving is a task that requires considerable skill and involves decision making. The primary consideration of this course is to provide students with the skills and attitudes that will make them safe drivers. The saving of life and limb and the reduction of accident rates on our streets and highways is a worthy objective. At a time when automotive registrations are increasing each year, and with them the number of drivers on the road, the risk of accidents also increases. This alone establishes the need for a course that will equip our young people to meet the challenge that faces them when they drive a motor vehicle.

OBJECTIVES

1. To develop in students attitudes of safety, courtesy and responsibility in the operation of a motor vehicle.
2. To provide a practicum for the development of the skills needed to drive an automobile.
3. To familiarize students with the various laws, regulations and traffic control devices involved in driving.

GENERAL GUIDELINES

Driver Education 10 was approved by the Minister of Education as an optional course for use in secondary schools in July, 1971. The course was revised in 1981 to reflect a broader emphasis on safety education. The guidelines outlined below should be considered carefully prior to the implementation of the course.

1. Credits and Reporting

   Two credits will be allotted for the course. Enrollments and recommendations for credits should be reported by the school in the usual manner. The school should indicate the offering of the course on its Form A.

2. Course Description

   The course will consist of at least:

   a. thirty (30) hours of classroom instruction

   b. ten (10) hours of observation of in-car practice

   c. ten (10) hours of behind-the-wheel practice.

3. Instruction

   Classroom instruction must be conducted by a certificated teacher. In-car observation and practice may be conducted by a certificated teacher or a non-certificated individual but must comply with the "Driver Training Regulations" under the *Highway Traffic Act* which is available through the Queen's Printer.

437

In order to conduct in-car observation and practice, a certificated teacher needs to:

a. hold a valid Alberta Class "1", Class "2" or Class "4" operator's licence

b. hold a valid Alberta driver instructor's licence by passing an examination given by the Alberta Transportation Safety Branch covering:

   - traffic laws
   - safe driving practices
   - operation of motor vehicles
   - knowledge of teaching methods, techniques and practices.

   The test can be written at an Alberta Transportation Safety Branch office.

In order to conduct in-car observation and practice a person not holding an Alberta teaching certificate may qualify as a teacher aide provided that such a person:

a. holds a valid Alberta Class "1", Class "2" or Class "4" operator's licence

b. has completed a driver training course of at least thirty (30) hours acceptable to Alberta Education and holds a valid Alberta driver instructor's licence.

Classroom instruction, in-car observation and in-car practice should be carefully coordinated by school authorities who have the responsibility of recommending students for credits.

It is highly recommended that the certificated teacher assigned to instruction and coordination of driver and traffic safety education, even though he or she does not do the in-car portion, have a driver education course recognized by Alberta Education.

The Alberta Transportation Safety Branch will offer the driver instructor's course in various locations as demand requires. The University of Alberta offers a summer half course in driver's education every other year, or as demand requires.

4. Student Certificates for Insurance Consideration

Schools may provide students with certificates for insurance purposes upon successful completion of the course. Alberta Education will send certificates to schools upon request. Certificate validation for each student requires the signature of the principal, or his or her designate. Order certificates from: Alberta Education, Curriculum Branch, Driver Education, Devonian Building, 11160 Jasper Avenue, Edmonton, Alberta, T5K 0L2.

5. Student

The student involved in Driver and Traffic Safety Education 10 must:

a. be at least fourteen (14) years of age

b. possess an operator's licence or a valid learner's permit issued by the Motor Vehicles Division of the Department of the Solicitor General

c. have written consent of a parent or guardian

d. be enrolled in an approved high school.

6. School

The school must secure the school board's approval in order to offer the course.

7. School Board

The school board must:

a. carry insurance coverage as follows:

   "Passenger Capacity" — For injury or death of any person as a result of any one accident in accordance with the provisions of the *Motor Vehicle Administration Act.*

b. arrange for training cars

c. finance the cost in any way deemed appropriate.

CONTENT

Unit 1: Introduction

1. Historical background
2. History of the automobile
3. Driver characteristics
4. Driver responsibilities
5. Safety
6. Hazard perception
7. First aid

Unit 2: The Driver and Specific Elements in Society

1. Relations and attitudes to:
    - other drivers
    - pedestrians
    - bicycles, motorcycles
    - heavily loaded vehicles
    - construction and repair crews
    - emergency vehicles
    - animals

Unit 3: Driving Techniques

1. Predriving habits
2. Starting, stopping, backing up
3. Turns
4. Passing
5. Parking
6. Hills and curves
7. Positioning a vehicle in traffic
8. Traffic circles

Unit 4: The Driver and Society

1. Traffic laws
2. Traffic control devices
3. Law enforcement
4. Natural laws
5. The safe automobile
6. Insurance

Unit 5: The Individual Driver

1. General characteristics that affect driving
2. Physical defects
3. Fatigue and stress
4. Alcohol
5. Drugs
6. Maturity

Unit 6: The Driver and the Car

1. Buying a new or used car
2. Ownership responsibilities
3. Basic operations
4. Preventive maintenance
5. Trip planning
6. Fuel conservation

Unit 7: Conditions and Driving Skills

1. Hazardous road conditions
2. Hazardous weather conditions
3. Reduced visibility
4. City driving
5. Country driving
6. Freeway driving
7. Driving loaded vehicles
8. Animals
9. Other vehicles

Unit 8: The Traffic Accident: Before, at the Scene and After

1. Causes of traffic accidents
2. At the scene
3. Consequences of accidents
4. Winter survival

Unit 9: New Approaches to Reduction of Traffic Accidents

1. Defensive driving
2. Driving decisions
3. Emergency manoeuvres
4. Safety devices
5. The superior driver
6. Enforcement of regulations

Unit 10: Motorcycling (Optional)

1. Development of the motorcycle
2. Motorcycle systems
3. Basic operating procedures
4. Preventive maintenance
5. Protective riding gear
6. Being seen — conspicuity
7. Defensive operation
8. Evasive action
9. Passengers
10. Group riding
11. Physical fitness

BASIC LEARNING RESOURCES

Power Under Control.

Behind the Wheel Guide. Third edition. McGraw-Hill, 1981. [For use with *Sportsmanlike Driving*]

ISBN 0070924031

Sportsmanlike Driving. Third edition. McGraw-Hill, 1981.

ISBN 0070924015

This course will be revised over the next few years. Information regarding basic learning resources may not be complete or current. Consult your Learning Resources Distributing Centre's *Buyers Guide* for current information.

If you require additional information, please contact Sharon Prather, Alberta Education, Curriculum Branch, Edwards Building, 10053 - 111 Street, Edmonton, Alberta. Telephone 427-2984. Fax 422-3745. Mailing address: Devonian Building, West Tower, 11160 Jasper Avenue, Edmonton, Alberta, T5K 0L2.

SCIENCE

CONTENTS

Science [general]

Biology 10–20–30

Chemistry 10–20–30

Physics 10–20–30, 22–32

Science 14–24

SCIENCE

GENERAL INTRODUCTION

GENERAL OBJECTIVES

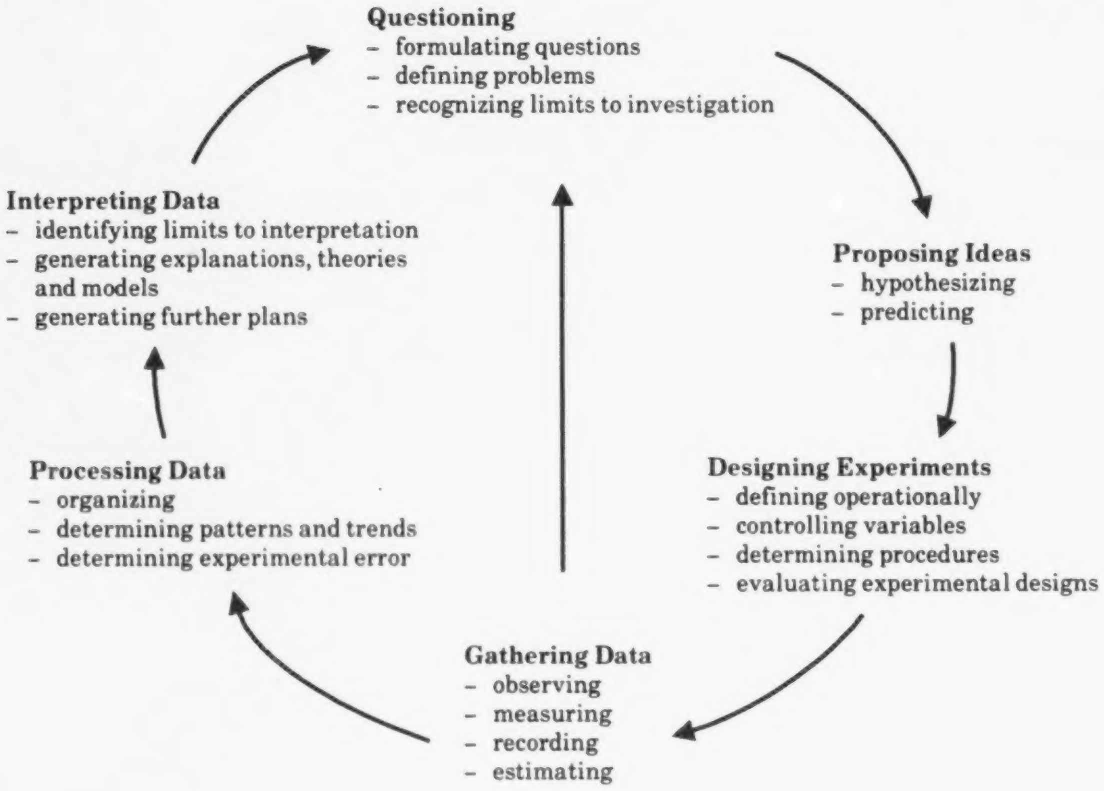
The general objectives for science education, Grades 1 through 12, are:

1. to develop the ability to inquire and investigate through the use of science process skills
2. to promote assimilation of scientific knowledge
3. to develop attitudes, interests, values, appreciations and adjustments similar to those ideally exhibited by scientists at work
4. to develop an awareness and understanding of the environment with positive attitudes and behaviours toward its use
5. to develop a critical understanding of those current social problems that have a significant scientific component in terms of their cause and/or their solution
6. to promote awareness of the humanistic implications of science
7. to promote an understanding of the role that science has in the development of societies, and the impact of society upon science
8. to contribute to the development of vocational knowledge and skill.

INQUIRY MODEL AND PROCESS SKILLS FRAMEWORK

The following inquiry model serves as the basis for the development of the inquiry process skills in all of the senior high school sciences. Although directional arrows are shown to indicate a typical cycle of inquiry, the sequencing of each stage is not prescriptive. Several of these stages may be of little consequence to a particular investigation, and the sequence in which they are treated will vary considerably from one activity to the next. Each of the high school sciences will contribute in its own way, depending on the topic and investigative activities incorporated within instruction. The skill statements illustrated in the following model and framework developed within the context of science are not limited to empirical investigation and scientific inquiry, but are transferable to other areas of study and research.

INQUIRY MODEL


Questioning
– formulating questions
– defining problems
– recognizing limits to investigation
Proposing Ideas
– hypothesizing
– predicting
Designing Experiments
– defining operationally
– controlling variables
– determining procedures
– evaluating experimental designs
Gathering Data
– observing
– measuring
– recording
– estimating
Processing Data
– organizing
– determining patterns and trends
– determining experimental error
Interpreting Data
– identifying limits to interpretation
– generating explanations, theories and models
– generating further plans

PROCESS SKILLS FRAMEWORK

Questioning

1. Formulating and expressing relevant questions:
    - 1.1 perceive discrepant events relative to subject matter studied
    - 1.2 perceive possible relationships among objects, events, properties and/or living things
    - 1.3 express questions about perceived relationships.
2. Defining problem statements:
    - 2.1 identify specific variables for study
    - 2.2 state possible relationships among these variables
    - 2.3 distinguish information that is relevant to the problem statement from information that is irrelevant.
3. Recognizing limitations to scientific investigation of given questions and problems:
    - 3.1 recognize assumptions and limitations implied in the phrasing of questions or problem statements
    - 3.2 recognize the limitations of empirical methods as a means of answering identified questions.

Proposing Ideas

1. Formulating hypotheses:

   1.1 describe proposed relationships among variables, referring to known models, theories and other background information, where possible
   1.2 describe possible relationships among variables in quantitative terms, where applicable
   1.3 evaluate hypotheses based on existing knowledge and experience.

2. Stating predictions:

   2.1 predict occurrences and events
   2.2 make predictions based on interpolation or extrapolation
   2.3 make predictions based on the application of a mathematical formula.

Designing Experiments

1. Defining operationally:

   1.1 construct operational definitions
   1.2 distinguish between operational and non-operational definitions.

2. Identifying and controlling variables:

   2.1 identify manipulation (independent) and responding (dependent) variables
   2.2 identify variables to be controlled and devise means for controlling them.

3. Determining procedures:

   3.1 select techniques that are appropriate to the problem and that are safe and ethically sound
   3.2 select suitable apparatus
   3.3 identify the purpose of each procedure
   3.4 determine an appropriate sequence for procedures
   3.5 state procedures clearly
   3.6 design a suitable format for recording data
   3.7 determine the headings to be used within the data recording format
   3.8 choose appropriate intervals for the manipulated variable
   3.9 determine the sample size
   3.10 determine an appropriate number of trials to give reasonable reliability
   3.11 determine reasonable levels of precision for all measures.

4. Evaluating experimental designs and suggesting modifications where appropriate:

   4.1 identify variables that are not controlled by the procedures to be used
   4.2 identify possible sources of procedural or measurement error
   4.3 suggest methods for improving precision of measures used
   4.4 identify missing or extraneous steps in an experimental design
   4.5 adjust experimental procedures.

Gathering Data

1. Observing accurately:

   1.1 distinguish between observations and inferences
   1.2 use specialized observation equipment effectively
   1.3 use specialized sampling and manipulative equipment effectively.

2. Measuring accurately:

   2.1 identify the precision of measuring instruments used
   2.2 use measuring instruments with skill and precision
   2.3 repeat observations and measurements, where questionable data arise.

3. Recording data clearly and completely:

   3.1 record descriptive observations accurately

3.2 record measurements in a form that expresses the precision of instruments used
3.3 prepare labelled diagrams of objects and materials studied.

4. Estimating quantities and measures:

4.1 estimate quantity of objects observed
4.2 estimate measures of objects or events observed
4.3 distinguish between reasonable and unreasonable values for direct and derived measurements.

Processing Data

1. Organizing and presenting data:

1.1 classify data into appropriate categories
1.2 design charts or tables for processed data
1.3 select and apply suitable mathematical treatments of data
1.4 indicate units throughout all calculations
1.5 produce suitable graphs
1.6 choose other means of presenting data, where appropriate.

2. Determining patterns and trends in data:

2.1 identify patterns and trends
2.2 produce "best fit" line for graphs
2.3 identify anomalies in data.

3. Determining experimental error both for original data and for values derived from these data:

3.1 use significant digits in expressing experimental results
3.2 calculate the percent error of experimentally determined values (relative to accepted or predicted values).

Interpreting Data

1. Identifying limits to interpretations:

1.1 state limitations affecting interpretation of the data
1.2 use language that expresses an appropriate level of certainty/uncertainty in stating interpretations.

2. Generating appropriate explanations, theories and/or models:

2.1 draw inferences from data
2.2 state interpretations within the limits of the experimental design
2.3 revise hypotheses in accordance with data collected
2.4 generate appropriate explanations, models and/or theories
2.5 evaluate alternative explanations, models and/or theories.

3. Generating ideas for extending knowledge related to the area of investigation:

3.1 determine need for extension of the investigation
3.2 identify additional questions to investigate.

BIOLOGY 10-20-30

PROGRAM ORGANIZATION AND CONTENT EMPHASES

The biology program is based on four major components: process skills, psychomotor skills, attitudes and concepts (subject matter). The percentage emphasis of each component for instruction in Biology 10-20-30 is listed in the table below. Even though each component is listed separately, instruction should integrate process skills, psychomotor skills and attitudes with the development of concepts. Not all these skills and attitudes have equal emphasis at each course level. Hence, development of these components should take place as the concepts are presented.

Content	Course		
	Biology 10 (3 credits)	Biology 20 (3 credits)	Biology 30 (5 credits)
Process Skills	30%	30%	20%
Psychomotor Skills	10%	10%	5%
Attitudes	10%	10%	15%
Concepts (Subject Matter)	50%	50%	60%

GENERAL GOALS

The general goals and objectives for Biology 10-20-30 are:

1. to develop an understanding of the interrelationships of biology and technology, and their influence on society
2. to develop those attitudes, psychomotor and process skills that are associated with scientific inquiry
3. to develop an interest in biology as a natural science

4. to develop an awareness of the delicate balance of nature and an appreciation that the survival of all life forms depends upon this balance

5. to encourage further interest in biological phenomena through the use of electives

6. to provide an historical perspective to developments in the biological sciences

7. to prepare students to make responsible decisions regarding science-related social issues

8. to develop an appreciation of how biologists carry out their work

9. to make students aware of possible careers in the field of biological sciences.

Objectives for Biology 10

The objectives for Biology 10 (3 credits) are:

1. to identify the characteristics that distinguish living things from non-living things

2. to develop an understanding of the development of the cell theory and its application

3. to understand how organisms can be classified into various levels

4. to initiate an understanding of the differences and similarities that exist among organisms

5. to develop effective techniques in the use of microscopes

6. to develop effective dissecting techniques.

Objectives for Biology 20

The objectives for Biology 20 (3 credits) are:

1. to develop an understanding of the interactions and interrelationships between biotic and abiotic factors within communities, ecosystems and biomes

2. to understand the principles of genetics

3. to recognize some of the reasons why there is great diversity among organisms

4. to examine society's impact on the biosphere.

Objectives for Biology 30

The objectives for Biology 30 (5 credits) are:

1. to examine selected cell structures and functions

2. to introduce homeostatic mechanisms and the regulation of body systems

3. to introduce a chemical basis for life

4. to examine the following human processes:
   a. alimentation and nutritional needs
   b. circulation of body fluids
   c. breathing and gas exchange
   d. cellular respiration
   e. movement and support
   f. regulation of body fluids
   g. nervous and hormonal control systems
   h. reproduction.

Process Skills

The inquiry model and process skill framework form the basis for the development of the scientific process skills component of the biology program. The development of the skill areas (questioning, proposing ideas, designing experiments, gathering data, processing data and interpreting data) is achieved primarily through investigative/laboratory experiences. As such, it is critical that students be involved in hands-on activities and emphasize problem-solving skills. The development of the process skills listed for each phase of the inquiry model and framework is further described in the *Biology 10–20–30 Curriculum Guide*, 1984.

418

Psychomotor Skills

Psychomotor skills can be regarded as those skills that involve integration between muscular movement and intellect. A progressive development of many of these skills throughout the high school biology program is important in areas of the program requiring manipulation of materials and apparatus.

The students should develop skills and ability to:

1. Manipulate equipment:
   a. microscope
   b. bunsen burner
   c. microcomputers
   d. centrifuge
   e. water baths
   f. hot plates
   g. balance
   h. stethoscopes and sphygmomanometers.
2. Become proficient in the use of various tools and instruments:
   a. use of dissecting instruments
   b. use of common laboratory tools; e.g., beakers, tongs, graduated cylinders
   c. use of mortar and pestle.
3. Carry out accepted procedures:
   a. preparation of wet and dry mount slides
   b. develop techniques for the separation of pigments
   c. staining techniques
   d. collecting and preserving techniques
   e. dissecting procedures
   f. biochemical analysis techniques
   g. focusing microscopes.
4. Follow safe practices and procedures:
   a. safe use of chemicals in the laboratory
   b. antiseptic techniques for microbiology
   c. proper handling of supplies and equipment
   d. proper handling of living specimens.

Attitudinal Objectives

General

The general, attitudinal objectives for Biology 10–20–30 are:

1. to promote an appreciation of the interdependencies and interrelationships among biology, technology and society
2. to develop an interest in biology as a natural science
3. to develop an interest in and appreciation of the attitudes demonstrated by scientists in their work
4. to develop a sense of responsibility in decision making concerning science-related social issues
5. to develop an appreciation of science as an important vocational and intellectual pursuit
6. to develop an appreciation of the historical development of modern science.

Biology 10

The attitudinal objective of Biology 10 is:

1. to develop an appreciation of the diversity among living things.

Biology 20

The attitudinal objectives of Biology 20 are:

1. to develop an appreciation of the role humankind play in their environment and of their dependence upon that environment
2. to develop an appreciation of the interdependence of living organisms within their environment
3. to develop positive attitudes and behaviours toward the use of the environment.

Biology 30

The attitudinal objective of Biology 30 is:

1. to develop an appreciation of the interdependence of human organ systems and their functioning in a homeostatic relationship.

BIOLOGY 10

CONCEPTS AND DESCRIPTIVE STATEMENTS

Living things are composed of cells.

1. The work by Leeuwenhoek and Hooke resulted in the discovery of microscopic life, which led to the development of the cell theory.

2. Some cell structures can be viewed through a regular light microscope:

   a. eukaryotic cells are surrounded by a membrane enclosing cytoplasm and a nucleus
   b. plant type cells usually include a cell wall, chloroplasts and often enlarged vacuoles
   c. plant and animal cells display unique and distinguishing characteristics.

3. Multicellular organisms illustrate such levels of organization as tissues, organs and systems.

Taxonomy is the science of classifying organisms.

1. Organisms are grouped on the basis of morphology.

2. Organisms may also be grouped on the basis of other criteria, such as degree of complexity, habitat or nutritional requirements.

3. Linnaeus developed a system of binomial nomenclature.

4. Difficulties have arisen in the development of a universally acceptable classification system.

5. Dichotomous keys are a useful tool in classifying organisms.

Viruses are subcellular structures.

1. Viruses have characteristics of both the living and the non-living.

2. Viruses reproduce within a host cell.

3. Some diseases are associated with viruses.

Life forms may exist at the unicellular and the multicellular levels of organization.

1. Bacteria are considered the most primitive of known life forms:

   a. bacteria are typical of prokaryotic cells
   b. bacteria have specific growth requirements
   c. bacteria are of importance to other organisms
   d. some diseases are associated with bacteria.

2. Many eukaryotic cells are unicellular or colonial:

   a. paramecium is a representative protozoan
   b. spirogyra exhibit the characteristics of colonial algae.

3. Fungi have many unique characteristics:

   a. bread mold exhibits structural and functional characteristics of fungi
   b. fungi are both harmful and beneficial.

4. Most plants are photosynthetic, multicellular organisms:

   a. mosses are successful plants lacking conductive tissue:
      - they occupy a variety of habitats
      - they are economically important and significant to the functioning of a biotic community

b. ferns are non-seed plants that have conductive tissue

c. gymnosperms are non-flowering seed plants:
   - they display unique characteristics such as needles, naked seeds and cones
   - they are of significant economic importance

d. angiosperms are flowering, seed-producing plants:
   - their characteristics exemplify the most advanced plant form
   - vegetative parts (roots, stems and leaves) have specific functions
   - monocots differ from dicots in leaf venation, stem and root branching patterns, seed structure and the number of flowering parts
   - the flower contains the reproductive organs of the plant
   - seed and fruit production result from pollination and successful fertilization.

5. Animals are multicellular organisms that demonstrate a phylogentic progression toward a greater developmental complexity:

   a. porifera and coelenterata have two cell layers:
      - they demonstrate cell specialization
      - hydra is a primitive coelenterate possessing tissue and nematocysts

   b. worms have three cell layers and primitive organ systems:
      - the tapeworm demonstrates adaptations to a parasitic lifestyle
      - lumbricus (the earthworm) provides representation for an in-depth study of organ systems

   c. mollusks and echinoderms are both harmful and beneficial to other organisms

   d. arthropods are the largest group of animals:
      - they share common characteristics
      - the crayfish provides representation for an in-depth study of more complex organ systems
      - the success of spiders and insects can be measured by their diversity and adaptations

   e. chordates represent the most complex animal group:
      - chordates possess a notochord, gill pouches and a dorsal nerve cord
      - fish are a major group of primitive chordates
      - amphibians have characteristics of both aquatic and terrestrial chordates. The frog provides representation for an in-depth study of chordate organ systems
      - reptiles display characteristics of the first true terrestrial chordates
      - birds display characteristics that adapt them for flight
      - mammals display characteristics of the highest level of complexity.

BIOLOGY 20

CONCEPTS AND DESCRIPTIVE STATEMENTS

Ecology is the study of the interrelationships between organisms and their environment.

1. Many factors are involved in ecological interrelationships:
   - a. biotic factors involve the living world
   - b. abiotic factors involve the non-living world
   - c. biotic factors and abiotic factors interact:
     - photosynthesis provides both energy and organic materials to the biotic world:
       - chlorophyll and accessory pigments absorb light energy
       - light energy is converted into chemical energy
       - chemical energy may be used in the synthesis of organic compounds
     - the flow of matter through the ecosystem is cyclical and may be affected by humankind's activities:
       - carbon-oxygen cycle and the greenhouse effect
       - nitrogen cycle and the importance of soil bacteria
       - water cycle and acid rain
     - energy transfer through the biotic world is non-cyclical
     - food chains, pyramids and webs map the flow of energy through the biotic world
     - the introduction of herbicides and pesticides into an ecosystem have serious effects on food webs.

2. Populations are composed of many individuals of the same species:
   - a. populations are defined in terms of space, time and kind
   - b. populations are characterized by exponential growth patterns
   - c. limiting factors control population density
   - d. humans exemplify an overpopulation problem within a closed community.

3. The biosphere is composed of communities, ecosystems and biomes:
   - a. the ecosystem is the fundamental unit of the biosphere:
     - succession occurs when biotic communities change over time toward a climax community
     - organisms occupy a specific niche within a community
     - many habitats exist within a community
   - b. nutritional relationships exist within a community:
     - symbiosis involves interaction between organisms:
       - commensalism
       - mutualism
       - parasitism
     - predator-prey relationships exist in the biosphere
     - competition occurs within and among species
     - saprophytes and decomposers aid in the decomposition of organic material
   - c. the biosphere contains fresh water ecosystems:
     - changes in running and standing water ecosystems are dependent on physical factors
     - humans are the major contributor to the pollution of fresh water
   - d. terrestrial ecosystems are studied in terms of biomes:
     - Canadian biomes are influenced by climate
     - major biomes exist in Alberta.

Genetics is the study of the transmission of characteristics from one generation to the next.

1. Chromosomes carry the hereditary material:
   - a mitosis is a process of nuclear replication during asexual production
   - b. meiosis is a process of gamete formation necessary for sexual reproduction:
     - diploid chromosome number is reduced to haploid chromosome number
     - cytoplasmic division differs between egg and sperm formation
     - abnormal meiotic division may occur.

2. Basic principles of heredity were established by Gregor Mendel.

3. Principles of heredity are based upon predictable results:
   - a. monohybrid and dihybrid crosses
   - b. codominance and incomplete dominance
   - c. multiple alleles
   - d. sex linkage.

4. DNA is the carrier of the genetic code:
   - a. each DNA molecule is unique because of its sequence of nitrogen base pairs
   - b. DNA is capable of replication
   - c. each protein is unique due to the sequence of amino acids it contains
   - d. specific proteins are synthesized according to sequence of nitrogen base pairs in the DNA molecule
   - e. cells and organisms exhibit traits due to their specific proteins
   - f. mutations arise from variations in the DNA or RNA molecules.

5. Hereditary changes affect the characteristics of organisms in a population:
   - a. early biologists, such as Lamarck and Darwin, attempted to explain changes in characteristics in populations
   - b. environmental factors influence gene expression
   - c. several factors influence speciation.

BIOLOGY 30

CONCEPTS AND DESCRIPTIVE STATEMENTS

Cellular processes are fundamental to life.

1. Animal cells exhibit complex structure and function:
    a. membranes
    b. cytoplasm and nucleoplasm
    c. organelles.

2. Substances necessary for life are transported by physical and chemical processes:
    a. diffusion and osmosis
    b. active transport
    c. endocytosis and exocytosis.

Homeostatic mechanisms regulate the body and its systems.

1. Negative feedback.

2. Enzyme action regulates cell metabolism.

3. Competitive inhibitors interfere with enzyme activity.

4. Acids, bases and buffers.

Humans must take in and process the required nutrients for absorption.

1. Basic organic and inorganic substances provide requirements for cell maintenance and growth:
    a. identify the importance of carbohydrates, proteins, lipids, nucleic acids, vitamins, minerals and water
    b. identify the general structural and functional differences among carbohydrates, lipids and proteins
    c. carbohydrates, lipids and proteins can be identified in the laboratory:
        - carbohydrates (Benedict's solution and iodine)
        - lipids (Sudan IV and translucence)
        - proteins (Biuret solution)
    d. the anatomy of the digestive system consists of the mouth, esophagus, stomach, small intestine, large intestine and anus
    e. accessory structures that assist in the process of digestion are salivary glands, liver, gallbladder and the pancreas
    f. digestion includes the physical and chemical breakdown of ingested macromolecules, preparing them for absorption:
        - oral (salivary amylase)
        - gastric (pepsin, HCl)
        - intestinal (carbohydrates, bile, lipase, bicarbonate ion)
    g. the release of digestive enzymes is under:
        - mechanical control (peristalsis)
        - hormonal control (gastrin, secretin)
        - nervous control
    h. nutrients are absorbed into the circulatory system
    i. the large intestine absorbs water and vitamins; stores, then ejects undigested materials
    j. malfunctions of the digestive system can result in ulcers or gallstones
    k. foreign substances may be absorbed and retained by body tissue.

Body fluids distribute essential nutrients to and carry wastes away from tissues.

1. The heart and its major blood vessels are structured to facilitate circulation.

2. Blood circulation occurs in a closed system consisting of arteries, arterioles, capillaries, venules and veins.

3. Homeostatic controls maintain cardiac output and blood pressure:

   a. capillary fluid exchange
   b. the medulla oblongata processes information from:
      - stretch receptors
      - carbon dioxide
   c. heart tissue is self-stimulating.

4. Blood is the primary circulating body tissue fluid:

   a. cellular components have specific functions:
      - erythrocytes transport gases
      - leucocytes control foreign invading bodies through antibody production and phagocytosis
      - platelets initiate blood clotting
   b. non-cellular components include plasma proteins, inorganic molecules, nutrients and waste molecules
   c. specific proteins determine blood types:
      - A, B, O factors
      - Rh factor
   d. oxygen concentration regulates red blood cell production.

5. Malfunctions in the circulatory system may result in heart attacks and strokes.

6. Lymph is a secondary circulating body fluid:

   a. lymph system
   b. lymph function.

Breathing precedes gas exchange and transport.

1. The anatomy of the respiratory system includes the:

   a. trachea
   b. bronchi
   c. bronchioles
   d. alveoli.

2. Mechanics of breathing include inhalation and exhalation.

3. Gas exchange occurs between the environment, blood and body tissues.

4. Hemoglobin and blood plasma are necessary for gas transport:

   a. oxygen is transported as part of the oxyhemoglobin molecule
   b. carbon dioxide is transported as part of the bicarbonate ion, as part of carbaminohemoglobin and as a molecule dissolved in plasma.

5. Breathing rate is controlled by respiratory centres in the medulla.

6. Smoking can adversely affect the respiratory system and may result in:

   a. lung cancer
   b. emphysema.

Energy is released by the oxidation of organic compounds.

1. Cellular respiration involves three basic concepts:

   a. hydrogen and its electron move from weak to progressively stronger electron acceptors
   b. the transfer of hydrogen and its electron releases energy that can be used to form high energy bonds
   c. some energy is stored as ATP.

2. Anaerobic respiration in muscle cells:

   a. takes place in the absence of oxygen
   b. results in the accumulation of lactic acid
   c. produces low amounts of ATP.

3. Aerobic respiration:

   a. uses oxygen as a final electron acceptor
   b. results in carbon dioxide and water as end products
   c. produces high amounts of ATP.

4. ATP released during cellular respiration is used for several metabolic processes, including:

   a. synthesis
   b. movement and muscle contraction
   c. heat production
   d. active transport.

The kidney provides homeostatic control over body fluids.

1. The excretory system removes metabolic wastes from the blood:

   a. urea, formed in the liver, is a major nitrogenous waste product in the blood
   b. the excretory system involves the kidney, ureter, urinary bladder and urethra
   c. urine formation involves the glomerulus, Bowman's capsule, proximal and distal convoluted tubules, loop of Henle and collecting duct.

2. Body fluid balance is maintained by hormones and ions:

   a. body fluid is regulated by aldosterone
   b. osmotic pressure of body fluids is regulated by antidiuretic hormone.

3. Dialysis may replace kidney function.

Regulation of the internal environment requires coordination between the nervous and hormonal systems.

1. Endocrine secretions regulate and maintain body functions:

   a. major endocrine glands include the pituitary, pancreas, adrenal and thyroid
   b. blood sugar regulation is influenced by insulin, adrenalin, thyroxin and glucagon
   c. hormone levels are regulated by negative feedback
   d. dwarfism is caused by a deficiency in the human growth hormone.

2. Nervous control involves reception, transmission, interpretation and response:

   a. stimuli in the environment must first be detected by sensory receptors:
      - Eye:
        - the cornea, iris, pupil, lens and retina are involved in image formation
        - light activates rods and cones
        - the optic nerve transmits images from the retina to the brain
        - far- and near-sightedness and astigmatism are common disorders
      - Ear:
        - the ear drum, ossicles, round and oval windows, cochlea fluid and the organ of Corti are involved in sound transmission
        - the auditory nerve transmits impulses from the cochlea to the brain
        - the eustachian tube maintains equal pressure on both sides of the eardrum
        - the semicircular canals detect body position and motion
      - chemoreceptors detect taste and odour
      - receptors in the skin detect pressure and temperature
   b. neural transmission relays information throughout an organism:
      - structure of a neuron
      - electrical activity of a nerve impulse:
        - threshold levels
        - "all or none" response
        - refractory period
      - chemical transmission between neurons involves excitatory and inhibitory substances:
        - acetylcholine
        - noradrenaline
        - acetylcholinesterase

c. the central nervous system interprets information and coordinates response:
    - the cerebrum, hypothalamus, cerebellum and medulla oblongata are major regions of the brain
    - the spinal cord transmits information to and from the brain
    - the reflex arc involves peripheral nerves and the spinal cord

d. the autonomic nervous system involves both sympathetic and parasympathetic nerves.

Voluntary movement and body support are the result of skeletal muscles and the skeletons to which they are attached.

1. The skeleton provides for muscle attachment, protection of internal organs and locomotion:

    a. ligaments
    b. tendons
    c. joint.

2. Skeletal muscles have a unique structure:

    a. fibers and fibrils
    b. actin and myosin.

3. Muscle contraction is stimulated by nerve action.

4. Muscle contraction requires calcium, creatine phosphate and ATP.

5. Inflammation of the joints may result in arthritis.

Humans are capable of reproducing.

1. Reproduction systems:

    a. the male reproductive system involves the penis, scrotum, testicles, vas deferens, urethra, prostate gland, Cowper's gland and the seminal vessicle
    b. the female reproductive system involves the vagina, uterus, cervix, Fallopian tubes and ovaries.

2. The development and functioning of the reproductive system is under the control of hormones:

    a. gonadotrophic hormones regulate the production of sex hormones:
        - follicle-stimulating hormone
        - Luteinizing hormone
        - intersticial cell stimulating hormone (male precursor)
    b. testosterone functions in developing primary and secondary sex characteristics
    c. estrogen and progesterone function in:
        - developing primary and secondary sex characteristics
        - menstrual cycle.

3. Pregnancy and childbirth:

    a. fertilization and implantation
    b. pregnancy is maintained through a hormonal balance
    c. embryonic and fetal development involves a placenta, the amnion, chorion and the umbilical cord
    d. oxytocin and relaxin are involved in the birth process.

ELECTIVES

The elective component comprises approximately 20% of the instructional program. While the elective is mandatory, teachers are permitted some flexibility in the choice of topics that may be included. Teachers should consult the *Biology 10–20–30 Curriculum Guide*, 1984 for suggested elective topics and guidelines concerning their use.

BASIC LEARNING RESOURCES

Biology 10 and 20

Kaskel, Albert et al. *Laboratory Biology: Investigating Living Systems.* Canadian SI edition. Columbus, OH: Charles E. Merrill Publishing Company, 1983.

ISBN 0675070333

Oram, R. F. *Biology: Living Systems.* Canadian edition. Bell & Howell, 1983.

ISBN 0675070325

Ritter, Robert et al. *Biology: A Canadian Laboratory Manual.* Agincourt, ON: GLC Publishers Limited, 1987.

ISBN 0888740395

Smallwood, W. L. *Biology.* Canadian edition. Silver Burdett, 1984.

ISBN 0888740212

Biology 30

Berry, Gordon S. *Biology of Ourselves: A Study of Human Biology.* Toronto, ON: John Wiley & Sons Canada Limited, 1982.

ISBN 0471798983

Kormondy, J. et al. *Biology.* Don Mills, ON: Addison-Wesley, 1984.

ISBN 0201168162

Lunn, D. et al. *Investigations in Biology.* Second edition. Don Mills, ON: Addison Wesley, 1986.

ISBN 020117622X

CHEMISTRY 10-20-30

The Chemistry 10-20-30 program is designed to contribute to the achievement of the overall objectives for science education in Alberta, described in this program of studies. The chemistry program also includes the development of process skill outcomes.

CHEMISTRY 10

OBJECTIVES

After participating in the activities and completing the requirements of this course, *the student should*:

1. know those concepts of chemistry as specified in the core outline
2. have competence in the language of chemistry, naming and writing the formulas and chemical equations
3. be skilled in techniques used by investigators in the field of chemistry
4. have background knowledge related to the importance of chemicals and chemical processes in our economy
5. be aware of the possible harm to the environment that may arise from heavy metals
6. know the contributions made by various scientific investigators to the topics being studied
7. be aware of chemistry as a possible vocation, and have an appreciation of its association with other sciences.

ORGANIZATION

Approximately 40 hours of instructional time shall be devoted to the core topics and about 25 hours to elective topics. The content of the elective units is to relate to the core in one of three ways:

1. an extension of a core topic
2. a practical application of a core topic
3. a topic not directly studied in the course but in some way related.

CORE TOPICS

Concepts and Subconcepts

1. The activities of chemical laboratory experimentation require basic skills and knowledge:
    - 1.1 various techniques are used to make qualitative and quantitative observations
    - 1.2 safety is of prime importance in the laboratory
    - 1.3 laboratory investigations follow a pattern involving such skills as hypothesizing, observing, interpreting, etc.
    - 1.4 the use of graphs in science enables the scientist to relate the variables of an experiment.

2. Measurement units are used to describe the properties of matter:
    - 2.1 the development of the International System of Units (SI) provided a logical and consistent system of measuring length, mass, time, quantity and temperature
    - 2.2 the use of significant figures in measurements and calculations is a means of indicating precision.

3. Matter is classified in a variety of ways:
    - 3.1 matter is classified on the basis of physical or chemical properties
    - 3.2 changes in matter are classified as being physical and/or chemical
    - 3.3 matter may be classified as:
        - mixtures or pure substances
        - homogeneous or heterogeneous
        - metals or non-metals
        - ionic or molecular.

4. The present atomic theory was developed on the basis of the accumulation of physical and chemical evidence:
    - 4.1 many scientists contributed to the development of modern atomic theory
    - 4.2 structure of an atom consists of a dense, positively charged nucleus surrounded by electrons
    - 4.3 the periodic table is a classification of the elements on the basis of their chemical and physical properties and atomic structure.

5. Chemical reactions may be classified and are represented by a chemical language:
    - 5.1 IUPAC rules provide a consistent system for naming chemical substances and writing formulas for them
    - 5.2 the "mole" is a quantity of matter (6.02×10^{23} particles)
    - 5.3 chemical reactions may be represented by balanced chemical equations
    - 5.4 chemical reactions may be classified according to type of reaction
    - 5.5 the writing and interpretation of balanced chemical reactions are based on the law of conservation of mass
    - 5.6 chemicals and chemical reactions have many effects; e.g., environmental, economic, industrial.

ELECTIVE TOPICS

Elective topics are to be chosen from the following:

1. metallurgy
2. chemicals in the environment
3. chemistry of soap and cosmetics
4. chemistry of photography
5. locally developed unit.

Note: Outlines for each elective topic, with the exception of the locally developed unit, are provided in the *Chemistry 10-20-30 Curriculum Guide*, 1977 along with a list of recommended resources.

CHEMISTRY 20

OBJECTIVES

After participating in the activities and completing the requirements of this course, *the student should*:

1. know the chemical principles underlying the chemistry specified in the core outline
2. be skilled in using proper laboratory techniques used by chemists and laboratory personnel
3. comprehend the historical development of the chemistry principles being studied
4. have the capacity to apply the knowledge and skills of chemistry to other situations involving chemicals at home and in industry
5. have interests and attitudes toward chemistry that will assist in the choice of vocations
6. know the chemistry facts and principles related to the open discussion of social issues of current interest.

ORGANIZATION

Approximately 40 hours of instructional time shall be devoted to the core topics and about 25 hours to elective topics. The content of the elective units is to relate to the core in one of three ways:

1. an extension of a core topic
2. a practical application of a core topic
3. a topic not directly studied in the course but in some way related.

CORE TOPICS

Solutions

Concepts and Subconcepts

1. Solutions are mixtures:

    1.1 solutions are homogeneous mixtures of solute(s) and a solvent
    1.2 solutions may be composed of combinations of solids, liquids and gases.

2. Formation of aqueous solutions is a chemical reaction:

    2.1 aqueous solutions play a very important part in chemistry
    2.2 the dissolving of a solute in a solvent may result in ions or molecules in solution, and energy changes
    2.3 solutions may be classified as electrolytes or non-electrolytes.

3. The proportion of solute to solvent is represented by concentration:

    3.1 concentration of solutions is defined in terms of moles of solute per litre of solution, or moles of solute per cubic metre of solution
    3.2 concentration and changes in concentration in solutions can be determined mathematically
    3.3 solutions may be described as unsaturated, saturated or supersaturated
    3.4 solubility is the concentration of a solute in a saturated solution in equilibrium condition
    3.5 factors that affect solubility are nature of solute and solvent, temperature and pressure.

Bonding

Concepts and Subconcepts

1. Chemical substances exist as elements bonded together:

    1.1 chemical bonds may be covalent or ionic
    1.2 molecules formed by covalent bonds may be polar or non-polar
    1.3 bonding between molecules may be classified as dipole-dipole or hydrogen bonding.

462

Organic Chemistry

Concepts and Subconcepts

1. Organic chemistry can be termed "carbon chemistry":
    1.1 the carbon-to-carbon bonding results in a great variety of compounds
    1.2 carbon compounds are some of the most important substances on earth.
2. Hydrocarbon compounds form an important group of chemicals:
    2.1 hydrocarbons may be classified structurally as aliphatic or aromatic
    2.2 the chemical and physical properties of hydrocarbons are the result of their structure and composition
    2.3 hydrocarbon reactions can be classified as combustion, substitution and addition
    2.4 the hydrocarbons form an important base for industry in Alberta.
3. Hydrocarbon derivatives form another important group of chemicals:
    3.1 major derivatives of hydrocarbons are alcohols, carboxylic acids and esters
    3.2 the chemical and physical properties of these derivative compounds are the result of their structure and composition.

ELECTIVE TOPICS

Elective topics are to be chosen from the following:

1. chemistry of the car
2. environmental chemistry
3. polymers: long chain molecules
4. biochemistry
5. qualitative analysis
6. locally developed unit.

Note: Outlines for each elective topic, with the exception of the locally developed unit, are provided in the *Chemistry 10-20-30 Curriculum Guide*, 1977 along with a list of recommended resources.

CHEMISTRY 30

OBJECTIVES

After participating in the activities and completing the requirements of this course, *the student should*:

1. know the facts and principles of chemistry as specified by the core outline
2. have competence in using the processes and techniques of chemistry in the identification of problems and the testing of proposed answers
3. be aware of the chemical factors related to issues of current interest
4. be informed about vocational and career opportunities in chemical and technical fields
5. know the contributions that various investigators have made in the development of current chemical theories
6. understand the application of the concepts and principles learned in class to the production and use of such products as ethylene, gasoline, plastics, fertilizers, pesticides and foods.

ORGANIZATION

Approximately 80% of instructional time shall be devoted to the core topics and about 20% to elective topics. The content of the elective units is to relate to the core in one of three ways:

1. an extension of a core topic
2. a practical application of a core topic
3. a topic not directly studied in the course but in some way related.

CORE TOPICS

Chemical Energetics

Concepts and Subconcepts

1. Each substance has a definite and characteristic heat content or enthalpy:
    - 1.1 the enthalpy of a substance is the sum of the kinetic and potential energy of the molecules
    - 1.2 the heat of formation is the energy required or released as a substance is formed from its elements.
2. Changes in matter involve a change in energy:
    - 2.1 changes that require energy are endothermic, and those that release energy are exothermic
    - 2.2 more energy is involved in nuclear changes than in chemical changes, and in general, more energy is involved in chemical changes than in phase changes
    - 2.3 in a phase, chemical or nuclear change, the change in energy is the energy of the products less the energy of reactants
    - 2.4 the ΔH of chemical and phase changes is determined calorimetrically
    - 2.5 by addition of ΔH values for known reactions, ΔH values for new reactions can be predicted
    - 2.6 the amount of energy released or absorbed in a phase, chemical or nuclear change is related to the number of moles of reactants.

Acids and Bases

Concepts and Subconcepts

1. Acids and bases can be defined in different ways:

   1.1 acids taste sour, change the colour of indicators, etc. Bases taste bitter, change the colour of indicators, etc.
   1.2 acids neutralize bases
   1.3 Arrhenius defined acids as those substances that increase the $H_3O+(aq)$ concentration, and bases as those that increase the $OH-$ (aq) concentration
   1.4 Bronsted and Lowry defined acids as proton donors and bases as proton acceptors.

2. The relative acidity of a solution can be measured:

   2.1 the strengths of acids and bases vary and are measures of the equilibrium condition
   2.2 the pH scale is a measure of the $H_3O+(aq)$ concentration
   2.3 indicator colour may be used to determine pH.

3. Acid-base reactions involve an exchange of protons:

   3.1 an acid-base reaction can be represented by a net ionic equation
   3.2 the relative strength of bases can be used to predict the equilibrium conditions
   3.3 titration is one of the main techniques used in quantitative measurement of acid-base reactions
   3.4 the determination of quantitative relationships in acid-base reactions is part of stoichiometry.

Oxidation–Reduction

Concepts and Subconcepts

1. Redox reactions involve an exchange of electrons:

   1.1 oxidation is defined as the loss of electrons, and reduction is defined as the gain of electrons
   1.2 oxidizing agents cause oxidation, and reducing agents cause reduction to occur
   1.3 a redox reaction can be represented by a net ionic equation.

2. In a redox reaction the electron loss and gain must balance:

   2.1 oxidation numbers of half-reactions illustrate the loss and gain of electrons
   2.2 oxidation numbers of half-reactions may be used to balance equations
   2.3 titration is one of the main techniques used in quantitative measurement of redox reactions
   2.4 the determination of quantitative relationships in redox reactions is part of stoichiometry.

3. The electrical potential of a redox reaction can be predicted and measured:

   3.1 reduction potentials are relative potentials of reduction half-reactions
   3.2 oxidation potentials are negative reduction potentials
   3.3 the relative strengths of oxidizing and reducing agents are compared in terms of a table of reduction potentials
   3.4 the net potential of a redox reaction is the sum of the oxidation and reduction potentials
   3.5 the spontaneity of a redox reaction can be predicted from the relative strengths of the oxidizing agents or from the positive sign of the net potentials.

4. Redox reactions involve electrical energy:
    - 4.1 electrochemical cells convert chemical energy to electrical energy
    - 4.2 electrolytic cells are used to convert electrical energy to chemical energy
    - 4.3 there are many applications of electrochemical and electrolytic cells.

ELECTIVE TOPICS

Elective topics are to be chosen from the following:

1. rates of chemical reactions
2. chemical equilibrium
3. radiation chemistry
4. organic derivatives and products
5. environmental problems
6. industrial chemistry
7. foods and their analogues
8. fossil fuel
9. locally developed unit.

Note: Outlines for each elective, with the exception of the locally developed unit, are provided in the *Chemistry 10–20–30 Curriculum Guide*, 1977 along with a list of references and resource materials.

BASIC LEARNING RESOURCES

Chemistry 10

Jenkins, F. et al. *Alchem 10.* Edmonton, AB: J. M. LeBel Enterprises Ltd., 1978.

ISBN 0920008127

Chemistry 20

Jenkins, F. et al. *Alchem 20.* Edmonton, AB: J. M. LeBel Enterprises Ltd., 1982.

ISBN 0920008135

Chemistry 30

Davis, J. *Chemistry: Experiments and Principles, Laboratory Manual.* D. C. Heath, 1977.

ISBN 0669003840

Jenkins, F. et al. *Alchem 30.* Edmonton, AB: J. M. LeBel Enterprises Ltd., 1981.

ISBN 0920008143

O'Connor et al. *Chemistry: Experiments and Principles.* Toronto, ON: D. C. Heath and Company, 1977.

ISBN 0669003824

Richardson, R. *Proton Chemistry: The Reactions of Acids and Bases.* John Wiley, 1976.

ISBN 0471719463

PHYSICS 10-20-30, 22-32

The Physics 10–20–30, 22–32 program is designed to contribute to the achievement of the overall objectives for science education in Alberta, described in this program of studies. The physics program also includes the development of process skill outcomes.

PHYSICS 10

OBJECTIVES

The student should:

1. demonstrate knowledge of the general concepts of physics that provide the basis for understanding natural phenomena

2. develop an understanding of interactions among physical systems

3. develop attitudes and skills associated with the processes of physics necessary for scientific inquiry

4. develop an awareness of the humanistic implications of physics

5. become aware of the impact that physics has had on the development of society

6. develop an interest in physics as a science, and appreciate its close association with the other sciences.

ORGANIZATION

Approximately 40 hours of instructional time shall be devoted to the core topics and approximately 25 hours to elective topics. Content of elective units is to relate to the core in one of three ways:

1. an extension of a core topic
2. a practical application of a core topic
3. a topic not directly studied in the course but in some way related.

CORE TOPICS

1. Physics as a science and physicists as scientists:

    1.1 definition of physics
    1.2 the role of the physicist.

2. The physics of the early Greeks:

    2.1 ideas of Aristotle as the basis of ancient science
    2.2 natural and violent motion

   - 2.3 union of Aristotelian physics and Christian theology
   - 2.4 sixteenth century status of Aristotelian physics.

3. The mathematics of uniform and non-uniform motion:

   - 3.1 motion in the natural environment
   - 3.2 uniform motion
   - 3.3 graphical description of uniform motion
   - 3.4 non-uniform motion: acceleration
   - 3.5 graphical description of non-uniform motion
   - 3.6 graphical definition of average speed and instantaneous speed
   - 3.7 equations of uniformly accelerated motion.

4. The insights and techniques of the seventeenth century used to describe motion:

   - 4.1 achievements of the sixteenth century scientists
   - 4.2 Galileo's new approach to the science of motion
   - 4.3 motion of freely falling bodies
   - 4.4 scientific reasoning applied to a definition of motion
   - 4.5 indirect test of the Galilean motion hypothesis
   - 4.6 mathematics of freely falling bodies
   - 4.7 Galileo's seventeenth century inclined plane experiment
   - 4.8 critical assessment of Galileo's procedure
   - 4.9 consequences of Galileo's experiments
   - 4.10 more recent acceleration of gravity experiments.

5. Vector analysis of motion:

   - 5.1 cause, pattern and relativity of motion
   - 5.2 new terms that describe motion
   - 5.3 graphical analysis of motion using vector symbolism
   - 5.4 algebraic analysis of directional motion
   - 5.5 vector analysis of motion.

6. Natural forces and Newton's explanation of motion:

   - 6.1 accounting for the cause of motion
   - 6.2 forces as vector quantities
   - 6.3 sign convention of force vectors
   - 6.4 vector analysis of one- and two-dimensional forces
   - 6.5 Newton's first law of motion
   - 6.6 experimental verification of the inertia principle
   - 6.7 mass as a fundamental property of matter
   - 6.8 Newton's second law of motion
   - 6.9 system internationale unit of force
   - 6.10 Newton's third law of motion
   - 6.11 differentiating between mass and weight
   - 6.12 apparent losses in weight of bodies.

ELECTIVE TOPICS

Elective topics are to be chosen from the following:

1. motion in the heavens I
2. motion in the heavens II
3. cosmology
4. fluids at rest
5. science and scientists
6. space exploration
7. experimental studies of motion
8. locally developed unit.

Note: Outlines for each elective topic, with the exception of the locally developed unit, are provided in the *Physics 10–20–30 Curriculum Guide*, 1977 along with a list of references and resource materials.

PHYSICS 20

OBJECTIVES

The student should:

1. demonstrate knowledge of the physical principles underlying the topics of physics specified in the course outline
2. develop skill in using experimentation, mathematical techniques and other strategies as a means of substantiating knowledge of physical principles
3. become aware of the historical development of physics as a discipline
4. become aware of the social impact, past and present, of the application of physics principles
5. develop the ability to apply knowledge of physical principles to vocational and avocational interests
6. attain a deeper insight into environmental problems through understanding physical limitations
7. develop a positive attitude toward physics and an interest in science.

ORGANIZATION

Approximately 40 hours of instructional time shall be devoted to the core topics and approximately 25 hours to elective topics. Content of elective units is to relate to the core in one of three ways:

1. an extension of a core topic
2. a practical application of a core topic
3. a topic not directly studied in the course but in some way related.

CORE TOPICS

1. Momentum and the interaction of bodies in nature:
    - 1.1 conservation of mass
    - 1.2 problem of discovering a quantity of motion
    - 1.3 the collision of bodies
    - 1.4 conservation of momentum
    - 1.5 using the law of conservation of momentum.
2. Energy as a key concept in the study of science:
    - 2.1 energy
    - 2.2 work
    - 2.3 power
    - 2.4 kinetic energy
    - 2.5 potential energy
    - 2.6 gravitational potential energy
    - 2.7 conservation of mechanical energy
    - 2.8 friction and molecular interaction
    - 2.9 heat as a form of energy
    - 2.10 law of conservation of energy.
3. Nature and propagation of waves:
    - 3.1 waves as energy carriers
    - 3.2 transverse and longitudinal waves
    - 3.3 physical description of waves
    - 3.4 reflection and refraction of waves
    - 3.5 diffraction and interference of waves.

ELECTIVE TOPICS

Elective topics are to be chosen from the following:

1. kinetic theory of matter II
2. the physics of sound
3. energy: resources, crises and conservation
4. heat, calorimeters and expansion
5. physics and the environment
6. simple machines
7. physics and personal safety
8. locally developed unit.

Note: Outlines for each elective topic, with the exception of the locally developed unit, are provided in the *Physics 10-20-30 Curriculum Guide*, 1977 along with a list of references and resource materials.

PHYSICS 30

OBJECTIVES

The student should:

1. demonstrate knowledge of the physical principles underlying the topics of physics specified in the course outline
2. develop a facility in using scientific processes to identify and to solve problems
3. develop background knowledge related to social issues of current interest
4. gain information and insights into vocational and career opportunities in the physics, engineering and allied sciences
5. develop the ability to discuss the importance of objectivity in scientific research
6. recognize and cite evidence of contributions that various investigators have made in the development of modern physical theories.

ORGANIZATION

Approximately 80% of instructional time shall be devoted to the core topics and approximately 20% to elective topics. Content of elective units is to relate to the core in one of three ways:

1. an extension of a core topic
2. a practical application of a core topic
3. a topic not directly studied in the course but in some way related.

CORE TOPICS

1. Nature and behaviour of light:

    1.1 propagation of light
    1.2 reflection and refraction
    1.3 interference and diffraction
    1.4 dispersion
    1.5 polarization
    1.6 deficiencies of the wave model.

2. Electric and magnetic fields:

    2.1 electric charges and forces
    2.2 forces and fields
    2.3 moving charges
    2.4 moving charges and magnets.

3. Electromagnetic radiation:

    3.1 electromagnetic theory
    3.2 propagation of electromagnetic waves
    3.3 evidence for electromagnetic waves
    3.4 the electromagnetic spectrum
    3.5 the ether concept.

4. The structure of matter:

    4.1 chemical nature of the atom
    4.2 electrical nature of the atom
    4.3 quantum behaviour of matter
    4.4 Rutherford-Bohr model of the atom
    4.5 inadequacies of atomic models.

5. Modern physical theories:

    5.1 some results of relativity
    5.2 particle-like behaviour of radiation
    5.3 wave-like behaviour of particles
    5.4 significance of mathematical atomic model
    5.5 Heisenberg's uncertainty principle
    5.6 probability interpretation of quantum mechanics.

ELECTIVE TOPICS

Elective topics are to be chosen from the following:

1. geometric optics
2. optical instruments
3. kinetic theory of matter II
4. the special theory of relativity
5. alternating current
6. electrical circuits
7. vectors and equilibrium
8. meters, motors and generators

9. the speed of light
10. trajectories and orbits
11. energy measurement
12. locally developed unit.

Note: Outlines for each elective topic, with the exception of the locally developed unit, are provided in the *Physics 10-20-30 Curriculum Guide*, 1977 along with a list of references and resource materials.

PHYSICS 22

Physics 22 is designed for students in vocational high schools who are taking programs that articulate with the institutes of technology; e.g., drafting, electronics, machine shop. It is expected that students in other programs may also elect this course. Teachers should feel free to adjust the content and method of presentation to the capabilities of their classes; however, it is felt that students in the articulated programs should cover the program substantially as outlined.

Course Outline

1. Introduction: Lessons 3, 4*.
2. Properties of Matter: Lessons 4, 5*, 6, 7*.
3. Light: Lessons 1, 2, 3*, 4, 5*, 6, 7, 8*, 9, 10*, 11, 12, 13*, 14, 15*.

PHYSICS 32

Physics 32 is designed for students in vocational high schools who are taking programs that articulate with the institutes of technology and is expected to be equivalent to the Year "A" physics program in the technical institutes.

Course Outline

1. Mechanics: Lessons 1, 2*, 3, 4*, 5, 6, 7, 8*, 9, 10, 11*, 12, 13*, 14, 15, 16*, 17, 18*, 19, 21, 23, 24, 27, 29, 30*, 31, 32, 33*.
2. Electricity: Lessons 1, 2, 3, 4*, 5, 6*, 7, 9.
3. Heat: Lessons 1, 3, 7*, 8, 9, 11, 12*.

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* The lessons that are marked with an asterisk are laboratory experiments.

472

BASIC LEARNING RESOURCES

Physics 10

Paul, Douglas et al. *Motion: Physics: A Human Endeavour.* Unit 1. Metric edition. Toronto, ON: Holt, Rinehart and Winston of Canada, Limited, 1977.

ISBN 003922435X

Physics 20

Paul, Douglas. *Energy and the Conservation Laws: Physics: A Human Endeavour.* Unit 3. Metric edition. Toronto, ON: Holt, Rinehart and Winston of Canada, Limited, 1976.

ISBN 0039224376

Physics 30

Holton, Gerald et al. *Project Physics: Resource Book.* Toronto, ON: Holt, Rinehart and Winston, 1975.

ISBN 0030897416

Rutherford, F. James. *Project Physics: Light and Electromagnetism.* Text and Handbook 4. Toronto, ON: Holt, Rinehart and Winston, 1975.

ISBN 0030896398

Rutherford, F. James. *Project Physics: Models of the Atom.* Text and Handbook 5. Toronto, ON: Holt, Rinehart and Winston, 1975.

ISBN 0030896401

Physics 22 and 32

White et al. *Physics: An Experimental Science.*

SCIENCE 14-24

A. PROGRAM RATIONALE AND PHILOSOPHY

Senior high school education is intended to prepare young people for entry into the workplace, to prepare them for further learning in other environments, and for living in an increasingly complex society.

The focus for senior high education is on learning to access and apply knowledge and information. For senior high science, this means not only the use of knowledge and information, but the development of an understanding of the pervasive role of science and technology in our society and in our own lives. Significant outcomes of senior high science education include awareness of the harmony required between science and the environment, and awareness of oneself as a member of the global community, with consequent inherent responsibilities to that community.

To ensure that students become both scientifically literate and socially responsible, science curricula must combine specific science content and process skills with content that empowers students to understand the interaction among science, technology and society.

The science curriculum addresses the specialized scope and subject matter appropriate for students who will later pursue science as a discipline, as well as the needs of the larger group who will, after graduation, pursue a broader range of interests and aspirations. Students must be equipped to make wise choices based on an understanding of the relationships among science, technology and society.

The Science 14–24 program provides a two-course science sequence that allows students to meet the credit requirements of the General High School Diploma. It is an activity-based program, providing students with the opportunity to develop and use practical knowledge of scientific principles and process. The attitudes, skills and concepts, wherever possible, are developed within the context of the student's own experience through the use of familiar, concrete examples: development of attitudes, skills and concepts through active participation, and exploration of science–technology and science–technology–society relationships. These all serve to motivate, to maintain interest, and to encourage a continuing appreciation of science for its usefulness and relevance. The Science 14–24 program promotes decision-making skills through active investigation of science-related issues. A practical, working knowledge of science, coupled with the ability to make informed and responsible decisions, will result in a "scientifically literate" student, able to understand and debate science-related issues and capable of making informed choices.

471

B. GENERAL LEARNER EXPECTATIONS

ATTITUDES

1. Scientific Attitudes

Students will be encouraged to develop the affective attributes of scientists at work, including:

1.1 curiosity
1.2 respect for evidence
1.3 inclination to tolerate uncertainty
1.4 intellectual honesty
1.5 open-mindedness
1.6 critical-mindedness
1.7 perseverance
1.8 creativity and inventiveness
1.9 appreciation for group work
1.10 suspended judgment
1.11 objectivity
1.12 confidence in personal ability
1.13 respect for accuracy and precision.

2. Attitudes toward Science

Students will be encouraged to develop the feelings, opinions, beliefs and appreciations that individuals have formed as a result of interacting with the various aspects of the scientific enterprise, including:

2.1 a positive attitude toward mathematical and scientific process skills
2.2 an appreciation for the utility of computational competence and problem-solving skills
2.3 an appreciation that, in solving problems scientifically, new technologies develop
2.4 an appreciation of the roles that science and technology play in serving human needs
2.5 an appreciation of the need for problem solving and informed decision making at both personal and societal levels
2.6 an appreciation of the contributions science and mathematics have made to our cultural heritage and civilization
2.7 an appreciation of the contributions and limitations of scientific and technological knowledge to societal decision making
2.8 an appreciation that ethical dilemmas may arise from the application of scientific research and/or technological developments
2.9 a sensitivity to the living and non-living environment
2.10 an appreciation of the roles of science and mathematics in explaining the complexity of the natural world.

SKILLS

1. Initiating Skills

Students will be expected to demonstrate an ability to distinguish between relevant and irrelevant information early in the cognitive process by:

1.1 defining problems
1.2 identifying issues
1.3 setting goals by establishing direction and purpose
1.4 formulating questions to guide research/inquiry
1.5 identifying variables and assumptions.

2. Information-gathering and Data-collecting Skills

Students will be expected to demonstrate an ability to consciously consider the substance or content to be used in the cognitive process by:

2.1 using an experimental design or research plan to gather data/information
2.2 obtaining qualitative and quantitative data
2.3 accessing relevant information
2.4 assembling and effectively using apparatus and equipment
2.5 recording data.

3. Organizing Skills

Students will be expected to demonstrate an ability to arrange or structure information so it can be understood or presented more readily by:

3.1 classifying
3.2 comparing/contrasting
3.3 ordering and identifying patterns and trends
3.4 drawing graphs, charts, flow charts, maps and diagrams
3.5 expressing data in the form of a mathematical relationship.

4. Analyzing Skills

Students will be expected to demonstrate an ability to classify existing information by examining parts and relationships, and to identify and distinguish components, attributes, claims, assumptions or reasons by:

4.1 interpreting data or information
4.2 judging the reliability or validity of the data or information
4.3 identifying errors
4.4 distinguishing between facts and values; relevant and irrelevant information
4.5 identifying main ideas
4.6 identifying attributes and components
4.7 identifying relationships and patterns
4.8 identifying perspectives
4.9 detecting bias and inconsistencies in a line of reasoning.

5. Generating Skills

Students will be expected to demonstrate an ability to make connections between new ideas and prior knowledge, and to add information beyond what is given by:

5.1 predicting
5.2 hypothesizing
5.3 explaining and elaborating
5.4 inferring and generalizing from the data or information
5.5 designing experiments or devising a plan for research
5.6 identifying and developing alternatives
5.7 identifying further problems, questions and issues to be investigated.

6. Integrating Skills

Students will be expected to demonstrate an ability to combine new information and prior knowledge by:

6.1 summarizing and communicating findings
6.2 developing consensus within a group
6.3 making a decision; developing a conclusion/solution
6.4 incorporating new information into existing theories or knowledge
6.5 changing existing knowledge structures to incorporate new information.

7. Evaluating Skills

Students will be expected to demonstrate an ability to assess the logic and quality of ideas and information by:

7.1 considering consequences
7.2 establishing criteria to judge reliability and validity of the data or information
7.3 assessing a design or the approach taken to solving problems and decision making
7.4 assessing the achievement of the goals set and action taken.

CONCEPTS

1. Foundation of Knowledge in the Natural Sciences

Students will be expected to demonstrate an understanding of ideas fundamental to science, including:

1.1 matter has structure and composition, and there is an interaction among its components
1.2 matter and energy are conserved in reaction systems

1.3 living organisms are interdependent with one another and with their environment
1.4 life forms exhibit uniquity, diversity and a changing nature
1.5 physical laws and theories attempt to explain the universe
1.6 chemical and physical systems are in a state of dynamic equilibrium
1.7 the application of knowledge is part of a systematic interpretation of natural phenomena.

2. Nature of Science

Students will be expected to demonstrate an understanding of science as a disciplined way to develop explanations for natural phenomena, including:

2.1 empirical evidence plays an important role in the development of scientific knowledge
2.2 scientific explanations are developed through interpretations and conceptual inventions that are theoretical in nature
2.3 proposed theories may be supported or refuted by experimental evidence
2.4 scientific knowledge is cumulative and subject to change.

3. Science and Technology

Students will be expected to demonstrate an understanding of the interaction between science and technology, including:

3.1 technology is a process of solving practical problems
3.2 technological development includes both products and processes
3.3 technology is a rapidly evolving area in modern society requiring ongoing study
3.4 the functioning of products and processes may be explained using scientific knowledge
3.5 science can be used to advance technology, and technology can be used to advance science
3.6 scientific knowledge and technology have limitations.

4. Science, Technology and Society

Students will be expected to demonstrate an understanding of how science and technology influence, and are in turn influenced by, societal issues, including:

4.1 many of the effects of science and technology on society are unforeseen
4.2 societal factors, such as economic, political, ethical and moral forces, interact with science and technology, exerting significant influence on each
4.3 technological products and processes develop in response to societal needs and wants
4.4 compromises are often needed to arrive at workable situations involving science and technology in society
4.5 various societal decisions can be evaluated in terms of related scientific and technological thinking
4.6 the scientific, technological and societal aspects of an issue can be identified through appropriate research and communication.

C. SPECIFIC LEARNER EXPECTATIONS

The Science 14–24 program has a required and an elective component, defined as follows:

- the required component provides the specific learner expectations within the required units of study, and comprises 80% of the program
- the elective component provides opportunities to adapt and enhance instruction to meet the diverse needs, abilities and interests of individual students. This component of the course may consist of remediation and enrichment or one of the optional units outlined below, and comprises 20% of the program.

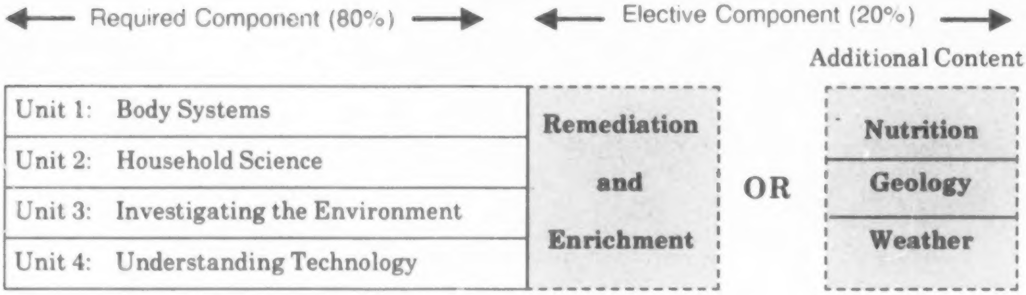
The elective component can be used for:

- enrichment of the required component of the program to provide challenges and depth
- remediation of the required component to provide additional assistance and reinforcement
- additional learning to provide alternative instructional activities consistent with the learner expectations of the required component.

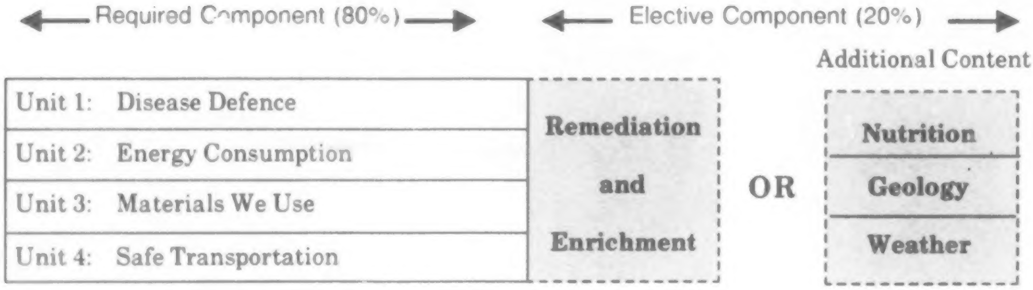
For Science 14 (5 credits), all four required units must be completed.

For Science 24 (5 credits), all four required units must be completed. If Science 24 is offered for 3 credits, any two of the four required units must be completed.

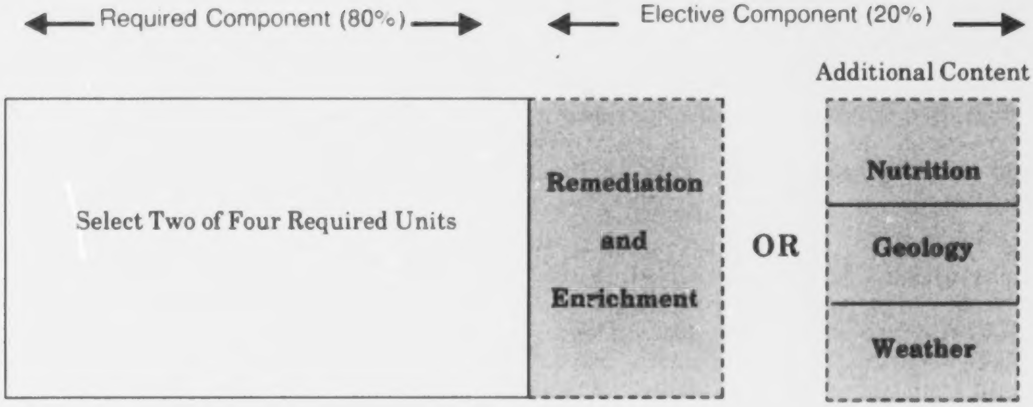
SCIENCE 14 (5 Credits)


Required Component (80%)
Elective Component (20%)
Additional Content
Unit 1: Body Systems
Unit 2: Household Science
Unit 3: Investigating the Environment
Unit 4: Understanding Technology
Remediation and Enrichment
OR
Nutrition
Geology
Weather

SCIENCE 24 (5 Credits)


Required Component (80%)
Elective Component (20%)
Additional Content
Unit 1: Disease Defence
Unit 2: Energy Consumption
Unit 3: Materials We Use
Unit 4: Safe Transportation
Remediation and Enrichment
OR
Nutrition
Geology
Weather

SCIENCE 24 (3 Credits)


Required Component (80%)
Elective Component (20%)
Additional Content
Select Two of Four Required Units
Remediation and Enrichment
OR
Nutrition
Geology
Weather

Elective time should be spent in a manner best suited to the nature and needs of the learner.

Three optional units are provided. Optional units serve as possible elective component material, either as enrichment or additional content. A teacher may select one or more of these suggested optional units to serve as elective for either the Science 14 or Science 24 courses. These optional units are not intended to be prescriptive but to serve as models. Optional units may be developed or selected locally, subject to the following provisions being met.

1. All optional program content must support the general learner expectations of the program.

2. Inclusion of optional content must not detract from the achievement of the specific learner expectations of the required component of the program.

Any optional unit taught becomes part of the 20% elective component of the program. Additional topic suggestions are included in the *Science 14–24 Teacher Resource Manual*, 1989.

SCIENCE 14

REQUIRED UNIT 1: BODY SYSTEMS

Overview

Through the application of scientific investigation, and the incorporation of simple monitoring technology, students will be encouraged to develop an understanding of the human body as a collection of dynamically balanced processes. The contribution of science to the current knowledge and technology associated with the functioning human body will be identified. Knowledge gained should be personally applicable and form a foundation for understanding the life processes of all living organisms.

Attitudes

Students will be encouraged to:

- appreciate the potential for advancement of knowledge through scientific inquiry
- respect the method of scientific investigation for its contribution to current knowledge of body systems and their interactions
- value the contribution of technology to the scientific investigations related to human health
- appreciate the intricate workings and balance within the human body
- value knowledge gained for its usefulness on a personal level
- value knowledge gained for its general application to all living things.

Skills

Students will be expected to demonstrate an ability to:

- question, observe, measure, collect, process and interpret data while investigating body systems
- apply monitoring technology in the collection of personal data for analysis.

Concepts

1. *Students will be expected to* demonstrate an understanding that science is a disciplined way to develop explanations for body functions.
    - 1.1 Illustrate with an example that much of our current knowledge of body systems has developed as a result of scientific inquiry.
    - 1.2 Outline a scientific investigation of a specific body function.
    - 1.3 Deduce that the knowledge of body systems is constantly expanding through scientific research.
2. *Students will be expected to* demonstrate an understanding that medical technology can be used to monitor body conditions.
    - 2.1 Describe the role of technology in monitoring critical life functions.
    - 2.2 Describe the contribution of technology to the diagnosis of malfunction within body systems.
    - 2.3 Explain, using an example, how science and technology work together to expand knowledge of body systems, providing information that can be applied to prevention of potential problems.
    - 2.4 Describe how technology can intervene to preserve the balance of life when a system fails (temporary and permanent intervention).
3. *Students will be expected to* demonstrate an understanding that a healthy body is the product of body systems working in harmony.
    - 3.1 Identify the critical life functions and the body system(s) that performs them.
    - 3.2 State how each body system has a particular function critical to life.
    - 3.3 Describe two body systems and their functions.

3.4 List the structures within those two body systems.
3.5 State the functions associated with each of those structures within the two systems.
3.6 Analyze the functional relationship of the two systems.

4. *Students will be expected to* demonstrate an understanding that the interrelationships of body systems are critical to life.

   4.1 Explain how normal fluctuation within one body system results in adjusting fluctuations in other body systems.
   4.2 Analyze the effect of a major fluctuation within the normal limits of one of the two systems studied.
   4.3 Extrapolate the concept to include the interrelationships of all body systems.
   4.4 Deduce that illness, and possibly death, results when the body cannot accommodate major disturbances within one or more of its systems.

5. *Students will be expected to* demonstrate an understanding that living things share common life functions.

   5.1 Describe how critical life functions are performed by unicellular organisms, plants and animals.
   5.2 Generalize and apply knowledge gained about human life functions to other living systems.

REQUIRED UNIT 2: HOUSEHOLD SCIENCE

Overview

By carrying out a series of controlled experiments, students will identify properties of substances found in their homes. They will be expected to develop a strategy for the safe handling of potentially dangerous substances and situations encountered within the home environment.

Attitudes

Students will be encouraged to:

- value scientific principles and processes for their usefulness in providing an understanding of common household phenomena
- appreciate that science exists outside of [illegible] classroom and laboratory
- value measurement for its usefulness in the household
- appreciate the benefit and potential danger of common household chemicals
- appreciate the contribution of technological products and processes to the modern household.

Skills

Students will be expected to demonstrate an ability to:

- improve measurement skills
- refine observation skills
- use data collecting, processing and interpreting skills
- communicate experimental results clearly
- read consumer labels and reports with accuracy and understanding
- determine household product composition through investigation and/or accurate label reading
- determine the properties of pure substances and solutions through investigation
- apply acid and base identification techniques
- protect living organisms and materials from excessive heat transfer
- handle food safely
- handle potentially dangerous household products safely.

Concepts

1. *Students will be expected to* demonstrate an understanding that household activities often require knowledge of measurement techniques.

   1.1 Use a variety of measurement techniques common in a household.

1.2 Use common household measurement devices correctly.

2. *Students will be expected to* demonstrate an understanding that household products and processes are based on the principles of science.

   2.1 Identify some basic household processes, such as cleaning, laundry, baking and painting that are based on scientific principles.
   2.2 Identify the products involved in these processes; e.g., detergents, leavening agents, solvents.
   2.3 Explain the composition of a household product.
   2.4 Describe the scientific principles that underlie the effectiveness of a household product or process.

3. *Students will be expected to* demonstrate an understanding that the properties of solutions are different than those of pure substances.

   3.1 Describe the properties of solutions and pure substances.
   3.2 Identify solutions found in a household.
   3.3 Identify pure substances found in a household.
   3.4 Differentiate solutions and pure substances, using selected household examples.

4. *Students will be expected to* demonstrate an understanding that permanent suspensions are found in the home.

   4.1 Describe the properties of permanent suspensions.
   4.2 Identify common permanent suspensions found in the home.
   4.3 Deduce the importance of permanent suspension by examining the consequences of separation to relevant household products.

5. *Students will be expected to* demonstrate an understanding that acids and bases can be identified and their reactions observed in the home.

   5.1 Describe the necessity for accurate identification of these substances.
   5.2 Describe how acids and bases can be identified.
   5.3 Illustrate with an example how acids and bases can react with other household substances in both useful and potentially dangerous ways.

6. *Students will be expected to* demonstrate an understanding that solubility varies with temperature change.

   6.1 Demonstrate how temperature change affects solubility of one common household solute.
   6.2 Cite common household examples of temperature change affecting solubility; e.g., brine preparation in pickling, syrup preparation in canning of fruit, making jello, homemade syrup.
   6.3 Describe why certain solutes crystallize out as temperature drops, and explain the concept of saturation point.

7. *Students will be expected to* demonstrate an understanding that reactions may require or emit energy in the form of heat.

   7.1 Describe the types of household reactions that require heat.
   7.2 Describe different household chemical reactions that would produce heat.
   7.3 Evaluate the usefulness of household reactions that require or emit heat.

8. *Students will be expected to* demonstrate an understanding that heat flows from areas of high temperature to areas of lower temperature.

   8.1 Compare heat exchange by conduction, convection and radiation in different mediums.

8.2 Determine the mode of heat transfer involved in various household processes.
8.3 Describe how household products, devices and techniques are designed to increase or decrease heat flow for specific purposes.
8.4 Describe the potential dangers of heat transfer.

9. *Students will be expected to* demonstrate an understanding that many household substances require special care in their use and handling.

9.1 Identify substances that have safety labelling.
9.2 List reasons why reading instructions for safe handling are important.
9.3 Describe recovery techniques for common problems or errors in handling.
9.4 List the potential dangers of mixing common household products.
9.5 Describe how micro-organisms can have beneficial and harmful effects on food material in the home.

REQUIRED UNIT 3: INVESTIGATING THE ENVIRONMENT

Overview

Students will identify a problem that arises from a selected environmental issue. They will investigate the problem, identify any technology relating to the problem, and suggest a process or action plan to deal with the selected environmental issue.

Attitudes

Students will be encouraged to:

- appreciate the fragility of the biosphere
- realize our inability to anticipate the environmental effects of our human activities
- develop optimism with respect to humankind's ability to live in harmony with the environment
- develop a sense of personal responsibility and empowerment in relation to environmental issues
- appreciate that the collective action of individuals can have significant impact
- develop healthy skepticism in regard to technology as the ultimate solution to environmental issues
- appreciate that environmental issues involve significant relationships among science, technology and society.

Skills

Students will be expected to demonstrate an ability to:

- identify a problem associated with an environmental issue
- gather, organize and evaluate such information
- clearly communicate the results of the investigation
- apply resulting information to a personal and/or societal situation.

Concepts

1. *Students will be expected to* demonstrate an understanding that humans have the ability to influence the quality of the environment.

1.1 List technological developments that produce materials the ecosystem cannot recycle.
1.2 Identify the relationship between densely populated areas and the production of wastes that exceed the environment's capacity to recycle.
1.3 Describe how land-use practices may result in major changes to the environment.
1.4 Give examples of how technological and societal developments can improve the quality of the environment.

2. *Students will be expected to* demonstrate an understanding that science and technology influence, and are influenced by, societal issues.
    2.1 Give examples of how science and technology develop in response to societal needs.
    2.2 Describe how scientific and technological developments, while meeting human wants and needs, may create or intensify problems; e.g., pollution.

3. *Students will be expected to* demonstrate an understanding that the effects of science and technology on society and on the environment are often unforeseen.
    3.1 Identify examples of the unforeseen consequences of science and technology; e.g., nuclear fission, automobiles, herbicides and pesticides.
    3.2 Identify and analyze the circumstances that led to unforeseen consequences in one particular case.
    3.3 Evaluate the societal impact of a development in science and technology.

4. *Students will be expected to* demonstrate an understanding that individuals can become involved in the resolution of ecological problems that arise.
    4.1 Identify ways that society can affect science and technology, exercising some degree of direction and control through political and consumer pressure; e.g., provision of fiscal and manpower resources, legislation, enforcement, petition, voting, demonstrations.
    4.2 Identify the ways an individual, as a member of society, can provide a degree of direction and control for science and technology; e.g., letters to MPs, lobby groups, personal habits.

5. *Students will be expected to* demonstrate an understanding that the biosphere is a thin layer on the surface of the earth, able to support life.
    5.1 Identify the components of the biosphere that provide the essentials of life.

6. *Students will be expected to* demonstrate an understanding that a continuous supply of solar energy is essential to life.
    6.1 Describe how the flow of solar energy through the biosphere is non-cyclical.
    6.2 Explain how photosynthesis and respiration are involved in the energy conversions necessary for life.
    6.3 Trace energy transfer from one feeding level to another, identifying loss of heat energy at each transfer.

7. *Students will be expected to* demonstrate an understanding that life depends on recycling processes.
    7.1 Explain why biochemical cycles are necessary to recycle matter.
    7.2 Identify the role of decomposers in the recycling process.
    7.3 Specify how biodegradable materials reduce the impact of human-made products on the environment.

8. *Students will be expected to* demonstrate an understanding that an ecosystem is the interaction of a community with its physical environment.
    8.1 List the physical factors that limit population growth.
    8.2 Describe how interaction between organisms affects populations.
    8.3 Illustrate, with at least one example, the impact organisms have on the environment.

REQUIRED UNIT 4: UNDERSTANDING TECHNOLOGY

Overview

Students will construct and/or manipulate and examine a simple device to determine the scientific principles upon which the operation of the device depends.

Attitudes

Students will be encouraged to:

- develop a positive attitude toward scientific and technological processes and skills
- appreciate that in solving problems scientifically, new technologies develop
- develop an awareness that science may involve technology and technology may involve science
- appreciate the importance of evaluating the design of a given technological device
- appreciate the relationships among science, technology and society.

Skills

Students will be expected to demonstrate an ability to:

- select and observe natural phenomena
- select a current technology and identify the specific interrelationships that exist between science and technology
- construct or acquire at least one simple device
- test the operation of the device
- evaluate the performance of the device
- identify the scientific principles used by the device
- identify a need or want not currently satisfied by a modern technology
- create an original design for one of the above needs or wants
- communicate how a specific technology has personal application.

Concepts

1. *Students will be expected to* demonstrate an understanding that science is the study of natural phenomena.

   1.1 Illustrate, with at least one example, how observation of natural phenomena can lead to scientific inquiry.
   1.2 Specify, using at least one example, how scientific principles stem from scientific inquiry.

2. *Students will be expected to* demonstrate an understanding that science is founded on facts, laws and theories.

   2.1 Differentiate among the terms *fact, law* and *theory*.
   2.2 Identify the relevant scientific facts, laws and theories associated with the use of simple devices or observable phenomena.

3. *Students will be expected to* demonstrate an understanding that science can be used to advance technology, and technology can be used to advance science.

   3.1 Identify situations where science leads to advances in technology.
   3.2 Identify situations where technology leads to advances in science.

4. *Students will be expected to* demonstrate an understanding that people create technological devices and systems to satisfy needs and wants.

   4.1 Illustrate, with at least one example, the application of scientific principles in the development of modern devices.
   4.2 Identify a variety of human needs and wants, and list the technological devices developed to meet them.

SCIENCE 24

REQUIRED UNIT 1: DISEASE DEFENCE

Overview

Students are to become aware of common diseases and their affect on our society. The technology involved in the study, treatment and cure of these diseases will be investigated.

The human immune system, immunization and current related biotechnology will be major areas of study.

Attitudes

Students will be encouraged to:

- appreciate that in solving problems scientifically, new technologies often develop
- appreciate that ethical dilemmas may arise from the application of scientific research and/or technological developments
- appreciate the relationship among science, technology and society
- develop a responsible attitude toward disease prevention
- develop an awareness of the limits of science and technology in regard to control and cure of human disease.

Skills

Students will be expected to demonstrate an ability to:

- identify, use and evaluate various methods of problem solving
- apply data collection, organization and interpretation skills
- recognize the limits of science and technology
- develop skill in the use of a light microscope/microslide viewer
- observe and identify basic cell structures visible under the light microscope/microslide viewer
- implement basic principles of disease prevention that contribute to human health.

Concepts

1. *Students will be expected to* demonstrate an understanding that diseases can be communicable or non-communicable.

    1.1 Trace the historical development of the disease concept.
    1.2 Describe how communicable diseases are transmitted by microbes, such as viruses, bacteria, protists and fungi.
    1.3 Describe how non-communicable diseases result from an interaction of variables; e.g., poor nutrition, compromised immune system, stress, heredity, alcohol, smoking.
    1.4 Describe the steps that can be taken to reduce the risk of contracting disease.

2. *Students will be expected to* demonstrate an understanding that the microscope is an essential tool for looking at microbes and cells.

    2.1 Relate structure to function in a light microscope.
    2.2 Describe how the invention of the electron microscope made possible the study of viruses and extremely small structures within the cell, which in turn led to great advances in science.

3. *Students will be expected to* demonstrate an understanding that the human body has natural systems of immunity.

    3.1 Describe how immunity can be achieved through contact with specific diseases.
    3.2 Describe how antibodies and phagocytes function as major components of the body's defence/immune system.
    3.3 Explain that through placental transfer and breast milk, maternal system antibodies pass to the offspring, providing some degree of immunity to the child.

3.4 Identify examples of abnormal immune responses; e.g., allergies, AIDS.

4. *Students will be expected to* demonstrate an understanding that biotechnical and biomedical processes have greatly enhanced our immune systems.

   4.1 Explain why an aseptic technique is critical to modern medical practice (historical development).
   4.2 Relate how artificial immunization (vaccines) prevents the contraction of many diseases.
   4.3 Describe how antibiotics suppress bacterial growth.
   4.4 Identify advances in genetic research that relate to disease defence; e.g., the splicing and cloning of genes to make antibodies.

5. *Students will be expected to* demonstrate an understanding that immunization technology is based on scientific principles.

   5.1 Trace the historical development of immunization therapy (Jenner, Pasteur, Koch, Salk).
   5.2 Describe how the body recognizes a foreign substance (antigen) and can produce specific antibodies against it.
   5.3 Describe how immunity can be induced by injection with attenuated or killed micro-organisms; e.g., measles, mumps, polio, rabies.
   5.4 Outline how injection of antibodies directly into an individual results in passive immunity; e.g., tetanus, hepatitis.

6. *Students will be expected to* demonstrate an understanding that factors behind biotechnical and biomedical processes have societal implications.

   6.1 Explain that vaccines provide immunity against diseases that were formerly fatal.
   6.2 Cite two examples of transplants or implants that may increase life expectancy.
   6.3 Identify and describe two techniques for genetic screening that make it possible to detect genetically transmitted diseases and disorders.
   6.4 Describe the interaction of a biomedical process with science and society.
   6.5 Cite one example of scientific research into the diseases of domestic crop plants leading to the development of technology that resulted in the production of disease-resistant strains.

REQUIRED UNIT 2: ENERGY CONSUMPTION

Overview

Students will use observation and recording of personal energy consumption patterns to establish a data base. Analysis and application of this data should lead to an awareness of technological processes involved in personal and global energy consumption.

Attitudes

Students will be encouraged to:

- develop a positive attitude toward mathematical and scientific process skills
- develop responsible attitudes toward energy consumption in relation to personal and global needs
- be receptive to new ideas, insights and change.

Skills

Students will be expected to demonstrate an ability to:

- select and apply appropriate problem-solving strategies
- apply specific data collection, organization and interpretation skills
- identify trends in data, and make predictions from those trends
- use precise symbols and terminology
- use simple calorimetry to measure the energy output of various foods
- use simple equipment and techniques to measure two other forms of energy; e.g., light, sound

- apply monitoring techniques, and record personal kilojoule intake
- analyze data from a personal kilojoule intake record
- develop an improved diet plan based on the analysis
- apply monitoring techniques, and record a personal household's energy consumption
- analyze data from a personal household energy consumption record
- devise a more efficient plan for household energy consumption based on the analysis
- devise a simple energy system model to demonstrate the conservation of energy
- calculate the efficiency of a basic energy system.

Concepts

1. *Students will be expected to* demonstrate an understanding that we obtain energy from the foods we consume.

    1.1 Identify the sun as the ultimate source of food energy.
    1.2 Describe the body systems responsible for conversion of food into energy.
    1.3 Identify and describe the processes of energy conversion performed by the human body.
    1.4 Identify the basic components of a balanced diet.

2. *Students will be expected to* demonstrate an understanding that energy can be measured in quantitative terms.

    2.1 Identify and define the units for measuring energy from food.
    2.2 Examine calorimetric equipment and techniques for measuring food energy.
    2.3 Identify other forms of energy present in the world.
    2.4 Identify equipment, techniques and units used to measure other forms of energy.

3. *Students will be expected to* demonstrate an understanding that personal energy consumption can be determined.

    3.1 Identify the forms of energy used in the household.

4. *Students will be expected to* demonstrate an understanding that observable phenomena play a role in the development of scientific knowledge.

    4.1 Describe how energy consumption data can be applied to make energy use more efficient.

5. *Students will be expected to* demonstrate an understanding that energy within a system has input, conversion and output components.

    5.1 Identify the energy components within a system.
    5.2 Describe the flow of energy within the human body.
    5.3 Describe the flow of energy through an ecosystem.
    5.4 Investigate energy consumption, conversion and output within an energy-powered device.

6. *Students will be expected* to demonstrate an understanding that total energy of a system is conserved.

    6.1 State the law of conservation of matter and energy.
    6.2 Explain the law of conservation of energy in terms of a selected energy system model.

7. *Students will be expected to* demonstrate an understanding that efficiency of an energy system can be calculated.

    7.1 Describe the methods and techniques for determining the efficiency of an energy system.
    7.2 Suggest ways of improving the efficiency rating of an energy system.
    7.3 Compare and contrast two energy systems in terms of their overall efficiency.

8. *Students will be expected to* demonstrate an understanding that there are renewable and non-renewable energy sources.

    8.1 Differentiate between renewable and non-renewable energy sources.

8.2 Identify and describe one renewable and one non-renewable energy source.
8.3 Describe ways of using renewable energy sources to improve the efficiency of local and global energy consumption.
8.4 Discuss the effects of using non-renewable sources on local and global energy consumption.

REQUIRED UNIT 3: MATERIALS WE USE

Overview

Students will study a variety of materials and their application. The interaction of science and technology in the research, development and production of materials to satisfy a societal demand will be addressed. The relationship of the properties of a specific material to its application will become evident through personal scientific investigation.

Attitudes

Students will be encouraged to:

- be aware that the technology of materials can solve practical problems
- appreciate the relationship of science principles to the properties of common materials
- appreciate the contribution of scientific processes and skills to the research and development of the technology of materials.

Skills

Students will be expected to demonstrate an ability to:

- design an experiment to investigate several properties of a selected material(s)
- carry out the experimental design on a selected material(s)
- apply data collection, organization and interpretation skills
- communicate results clearly
- propose applications of the selected material(s), based on its properties
- assess materials critically.

Concepts

1. *Students will be expected to* demonstrate an understanding that a material is the substance of which a thing is, or from which it can be made.

   1.1 Define *matter*.
   1.2 Define the atom as the basic structural unit of matter.
   1.3 Relate the behaviour of atoms and molecules to the kinetic molecular theory.
   1.4 Relate the properties of a material to its composition.

2. *Students will be expected to* demonstrate an understanding that the properties of materials can be investigated through controlled experimentation.

3. *Students will be expected to* demonstrate an understanding that the technological process of producing a product can be evaluated.

   3.1 Describe how products are derived from natural or synthetic sources.
   3.2 Identify products that are in everyday use.
   3.3 Investigate the industrial process involved in the manufacture of two products.
   3.4 State the advantages and disadvantages of the industrial processing of resources into a product.

4. *Students will be expected to* demonstrate an understanding that the use of materials has changed many aspects of life.

   4.1 Describe how non-biodegradable products can cause environmental problems.
   4.2 Assess the need for biodegradable products.
   4.3 Describe how products and their applications can change over time as new materials and technologies are developed.
   4.4 List the properties of four selected raw materials and identify their contribution to our quality of life.

459

REQUIRED UNIT 4: SAFE TRANSPORTATION

Overview

Students will study the scientific principles associated with transportation. The rationale for the technology involved in transportation safety should evolve from this study. An issue related to transportation safety should be thoroughly investigated, and the student should develop an informed opinion regarding this issue.

Attitudes

Students will be encouraged to:

- appreciate a philosophy of life that reflects personal responsibility
- appreciate that ethical dilemmas may arise from the application of technological developments
- appreciate the relationship among science, technology and society with respect to transportation
- accept the need for rules and regulations with respect to transportation safety.

Skills

Students will be expected to demonstrate an ability to:

- select and apply appropriate problem-solving strategies
- apply data collection, organization and interpretation skills
- apply deductive reasoning to arrive at a conclusion
- analyze the possible impact of technological developments on society
- identify the limits of science and technology
- debate the relationship between consumers' expectations and producers' responsibilities
- implement principles of transportation safety that will contribute to lifelong health and survival.

Concepts

1. *Students will be expected to* demonstrate an understanding that collisions involve the conservation of energy.

   1.1 Relate the momentum of an object to its mass and velocity.
   1.2 Specify that moving objects possess energy of motion called kinetic energy.
   1.3 Relate the energy transferred in a collision to the direction of the moving objects involved.
   1.4 Trace the energy conversions in a collision.

2. *Students will be expected to* demonstrate an understanding that personal risk involved in the use of technology can be assessed.

   2.1 Investigate how different modes of travel present different types and degrees of personal risk.
   2.2 Relate the condition and expertise of the vehicle operator to the degree of risk involved.
   2.3 Relate environmental conditions to travel safety.
   2.4 Describe how risk may be reduced by use of safety devices and practices.

3. *Students will be expected to* demonstrate an understanding that trade-offs are made to arrive at safe, workable situations involving technology in society.

   3.1 Assess the influence of cost on the development and consumer acceptance of safety devices.
   3.2 Assess the influence of comfort on the design and use of safety devices.
   3.3 Assess how convenience influences safe transport.
   3.4 Consider the issues of vehicle appearance and popularity in relation to vehicle safety.

4. *Students will be expected to* demonstrate an understanding that science and technology influence societal issues.

    4.1 Illustrate, with at least one example, that technological development occurs in response to the perceived needs and wants of society.
    4.2 Describe how scientific and technological developments provide wider choices for private and industrial society.

5. *Students will be expected to* demonstrate an understanding that safety features are involved in making societal decisions regarding transportation technology.

    5.1 Identify how vehicle safety is determined by extensive research and setting of standards.
    5.2 State the safety standards and licencing requirements for operators of vehicles such as motorcycles, bicycles and cars.
    5.3 State the need for safe transportation corridors.
    5.4 Describe how properly designed and strategically placed road signs and traffic control devices contribute to road safety.

SCIENCE 14–24 OPTIONAL UNITS

SUGGESTED OPTIONAL UNIT: NUTRITION

Overview

The students will obtain the latest information on nutrition that will provide them with the background necessary for considering alternatives prior to making decisions concerning their personal health or the health of others in our society.

Attitudes

Students will be encouraged to:

- appreciate the relationship between diet and lifestyle
- develop a responsible attitude toward tobacco, alcohol and drugs
- develop a philosophy reflecting responsibility to self and others
- appreciate the ethical dilemmas that may arise from the application of scientific research and/or technological developments.

Skills

Students will be expected to demonstrate an ability to:

- devise a personal strategy for maintaining a healthy body; emphasizing prevention of potential problems
- examine evidence and consider alternatives before making a decision
- examine and assess a variety of viewpoints on controversial issues before forming an opinion
- relate individual needs to societal concerns
- recognize the technological advancements in health care related to nutrition
- classify foods into groups as outlined in the *Canada Food Guide*
- perform specific laboratory tests to identify proteins, fats and carbohydrates in foods
- collect and analyze personal food intake data
- interpret the terminology found on food labels
- use labels on prepackaged foods to classify the ingredients into nutrient or non-nutrient categories.

Concepts

1. *Students will be expected to* demonstrate an understanding that daily food intake should include minimal amounts of certain foods in order to maintain health.

   1.1 Define *nutrient.*
   1.2 Review the *Canada Food Guide* definition of good nutrition.
   1.3 Define and give examples of *carbohydrates, fats* and *proteins.*
   1.4 Identify the major functions of carbohydrates, fats and proteins in the human body.
   1.5 Deduce that many foods are combinations of carbohydrates, fats and proteins.
   1.6 Explain why a healthy diet consists of a balance of foods from each group.
   1.7 Explain the general role of vitamins and minerals in the body, and identify common sources of these nutrients.
   1.8 Describe Canada's food-labelling laws and how they assist the consumer in selecting foods with appropriate nutrients.

2. *Students will be expected to* demonstrate an understanding that much of our food, particularly processed food items, contain additives.

   2.1 Define *additive.*
   2.2 List common food additives found in or on foods.
   2.3 Identify the function of these additives.
   2.4 Outline Canada's labelling laws regarding additive listing.
   2.5 Discuss the benefits of labelling laws to the consumer.

2

3. *Students will be expected to* demonstrate an understanding that alcohol, drugs and tobacco can relate to nutrition.

   3.1 Define *alcohol* and *drugs*.
   3.2 Analyze the effects of alcohol, drugs and tobacco on an individual's appetite and nutritional needs.
   3.3 Describe a specific disease related to each of alcohol, drug and tobacco abuse.
   3.4 Relate these diseases to the effects on nutrition.

4. *Students will be expected to* demonstrate an understanding that the consequences of improper diet can range from minor deficiencies to life-threatening conditions.

   4.1 Specify how a lack of vitamins or minerals may lead to deficiency diseases.
   4.2 Describe how fad diets and packaged meal supplements may lack essential food groups, minerals and vitamins, and may be hazardous to one's health.
   4.3 Define/describe *anorexia* and *bulimia*.
   4.4 State why anorexia and bulimia are life threatening.
   4.5 Cite at least one example of technological advancement in health care related to nutrition.
   4.6 Analyze diet and activity level based on energy requirements, and suggest improvements.
   4.7 Deduce that diets geared to weight reduction are most effective when a major lifestyle change is implemented and a lasting balance of food intake and activity results.

SUGGESTED OPTIONAL UNIT: GEOLOGY

Overview

Several theories have been used to explain the existence of geological forces such as volcanoes and earthquakes. Students will examine evidence and determine how well the current theory and model explain such evidence. Activities should promote the students' understanding of the important role technologies, such as remote sensing and Richter scale determinations, play in the collection of relevant data.

Attitudes

Students will be encouraged to:

- recognize that scientific knowledge is cumulative and subject to change
- appreciate the limits of science and technology in problem solving
- appreciate the ethical dilemmas that may arise from the application of scientific research and/or technological developments
- appreciate that proposed theories such as "plate tectonics" may be supported or refuted by experimental results
- appreciate the relationship between science and technology in the area of geology
- appreciate the beauty/magnitude of the earth's geological features and processes.

Skills

Students will be expected to demonstrate an ability to:

- apply data collection, organization and interpretation skills
- identify trends in data, and make predictions from those trends
- use established scientific models as a comparative base for observable data
- identify components and interactions within geological systems
- use precise terminology and symbols.

Concepts

1. *Students will be expected to* demonstrate an understanding that movements of the earth's crust result in earthquakes, volcanoes and mountain building.

   1.1 Describe theories that explain dynamic changes occurring in the earth's crust.
   1.2 Illustrate, using at least one example, that movement of the earth's crust is localized.
   1.3 Identify the current theory explaining the earth's internal structure.
   1.4 Assess evidence on the current theory of the internal structure of the earth.

2. *Students will be expected to* demonstrate an understanding that the forces of nature can be explained by the movement of water, air and land.
    - 2.1 Assess why movement requires an energy source.
    - 2.2 Describe how forces cause specific patterns of movement of water, air and land.
    - 2.3 Investigate and describe how movement of water, air and land can alter the surface of the earth.

3. *Students will be expected to* demonstrate an understanding that technology can be used to predict the forces of nature.
    - 3.1 Assess the limitations of modern technology in measuring and accurately predicting the earth's movement, using one example.
    - 3.2 Explain why the earth's movement can be measured, but not accurately predicted, even with modern technology.
    - 3.3 Describe how the technology involved in predicting the forces of nature is developing rapidly.
    - 3.4 Examine and describe a rapidly developing technology associated with predictions of the forces of nature.

4. *Students will be expected to* demonstrate an understanding that theories may be updated based on new evidence.
    - 4.1 Describe the historical development of a current theory that offers an explanation for a geological feature and/or process.
    - 4.2 Explain how the accumulation of data contributes to evidence that may support, modify or refute a theory explaining a geological feature and/or process.

SUGGESTED OPTIONAL UNIT: WEATHER

Overview

Present-day theories and models of the earth's atmosphere attempt to explain weather phenomena such as hurricanes, tornadoes, violent storms and general weather patterns. Students will examine the evidence, and determine how well the theory and model explain such evidence. The contribution of technological data-gathering techniques and devices, such as weather satellites, will be considered.

Attitudes

Students will be encouraged to:

- recognize that scientific knowledge is cumulative and subject to change
- identify the limits of science and technology in problem solving
- appreciate the ethical dilemmas that may arise from the application of scientific research and/or technological developments
- appreciate that proposed theories attempting to explain weather phenomena may be supported or refuted by experimental results
- appreciate the relationship between science and technology, as related to the explanation and prediction of weather phenomena
- appreciate the power and magnitude of weather phenomena.

Skills

Students will be expected to demonstrate an ability to:

- apply data collection, organization and interpretation skills
- identify trends in data, and make predictions from those trends
- use established scientific models as a comparative base for observable data
- use precise terminology and symbols.

Concepts

1. *Students will be expected to* demonstrate an understanding that the earth's atmosphere can be monitored for temperature, pressure and speed.

   1.1 Relate weather patterns to the constant flux of the earth's atmosphere.
   1.2 Identify and use technology associated with measuring various characteristics of air masses.
   1.3 Investigate various weather patterns and their impact on the earth's surface.

2. *Students will be expected to* demonstrate an understanding that weather can be explained by the movement of water and air.

   2.1 Describe why movement requires an energy source.
   2.2 Identify and describe the energy sources and energy conversions involved in such movements.
   2.3 Describe how forces cause specific patterns of movement of air and water.

3. *Students will be expected to* demonstrate an understanding that technology can be used to predict the forces of nature.

   3.1 Describe how weather can be predicted, and discuss why forecasts are accurate and inaccurate.
   3.2 Describe how technology plays a key role in weather forecasting.
   3.3 Describe how the technology involved in predicting the weather is developing rapidly.
   3.4 Identify and describe a rapidly developing technology associated with prediction of weather.

4. *Students will be expected to* demonstrate an understanding that theories may be updated based on new data.

   4.1 Describe the historical development of a present-day theory that offers an explanation of a weather-related force of nature; e.g., tornado formation.
   4.2 Explain how the accumulation of data may support, or refute, a theory that explains a weather phenomenon.

D. BASIC LEARNING RESOURCES

Science 14 Required Units

Hutton, Glen (ed.). *Household Science.* ISIS Individualized Science Instructional System. Revised. Scarborough, ON: Globe/Modern Curriculum Press, 1989. [Booklet]

ISBN 0889961905

_____________. *Investigating the Environment.* ISIS Individualized Science Instructional System. Revised. Scarborough, ON: Globe/Modern Curriculum Press, 1989. [Booklet]

ISBN 0889961948

_____________. *Science, Technology, and You.* ISIS Individualized Science Instructional System. Revised. Scarborough, ON: Globe/Modern Curriculum Press, 1989. [Booklet]

ISBN 0889961964

_____________. *Your Body in Balance.* ISIS Individualized Science Instructional System. Revised. Scarborough, ON: Globe/Modern Curriculum Press, 1989. [Booklet]

ISBN 0889961921

Science 24 Required Units

Hutton, Glen (ed.). *Arrive Alive.* ISIS Individualized Science Instructional System. Revised. Scarborough, ON: Globe/Modern Curriculum Press, 1989. [Booklet]

ISBN 0889962103

_____________. *Disease Defence.* ISIS Individualized Science Instructional System. Revised. Scarborough, ON: Globe/Modern Curriculum Press, 1989. [Booklet]

ISBN 0889962049

_____________. *Energy for Living.* ISIS Individualized Science Instructional System. Revised. Scarborough, ON: Globe/Modern Curriculum Press, 1989. [Booklet]

ISBN 0889962081

_____________. *Materials and Molecules.* ISIS Individualized Science Instructional System. Revised. Scarborough, ON: Globe/Modern Curriculum Press, 1989. [Booklet]

ISBN 0889962065

Science 14–24 Optional Units

Hutton, Glen (ed.). *Earth Changes.* ISIS Individualized Science Instructional System. Revised. Scarborough, ON: Globe/Modern Curriculum Press, 1989. [Booklet]

ISBN 0889961980

_____________. *Everybody Talks about the Weather.* ISIS Individualized Science Instructional System. Revised. Scarborough, ON: Globe/Modern Curriculum Press, 1989. [Booklet]

ISBN 0889962022

_____________. *Food Power.* ISIS Individualized Science Instructional System. Revised. Scarborough, ON: Globe/Modern Curriculum Press, 1989. [Booklet]

ISBN 0889962006

SECOND LANGUAGES

CONTENTS

French
  Three-year Program — French 10-20-30
  Six-year Program — French 10S-20S-30S
  Nine-year Program — French 10N-20N-30N

German
  10-20-30

Italian
  10-20-30

Latin
  10-20-30

Spanish
  10-20-30

Ukrainian
  Three-year Program — Ukrainian 10-20-30
  Six-year Program — Ukrainian 10S-20S-30S

FRENCH

At the senior high school level, three programs are available for French as a second language:

1. the three-year program developed in 1974, revised and approved by the Minister in 1980
2. the senior high portion of the six-year program approved by the Minister in 1980
3. the senior high portion of the nine-year program approved by the Minister in 1981.

GOALS

Goals designate the broad, long-range and significant outcomes desired from a program.

Although the following goals may be given varying emphases, they are identified as those appropriate to learning French and are intended to enable the student:

1. to acquire basic communication skills in French by:
   - 1.1 developing the receptive skills of listening and reading, including, in the case of the former, an understanding of intonation, gestures and visual clues that help to convey the message
   - 1.2 developing the productive skills of speaking and writing, including, in the case of the former, the appropriate intonation, gestures and visual clues that help to convey the message
2. to develop cultural sensitivity and enhance personal development by:
   - 2.1 developing a greater awareness and appreciation of various cultural values and lifestyles
   - 2.2 developing a positive attitude toward people who speak another language through a meaningful exposure to the French language and culture
   - 2.3 becoming more aware of one's own cultural heritage through learning French
   - 2.4 becoming aware of, and appreciating, through instruction and direct experiences, the valuable contributions of French-speaking peoples to civilization
   - 2.5 broadening perspectives to include the national and international scene through active participation in a language spoken by many Canadians
3. to develop originality and creativity in language by:
   - 3.1 enabling the student to apply skills to new and meaningful situations
   - 3.2 enabling the student to express personal ideas and feelings
   - 3.3 enabling the student to discover a new personality dimension

4. to acquire additional concepts and generalizations about language and language learning by:
    4.1 recognizing the basic structural similarities and differences between English and French
    4.2 acquiring some knowledge of the structure and function of language
    4.3 developing an awareness of regional, social and functional variations of spoken and written language
    4.4 developing a conscious knowledge of the skills and strategies used in learning a second language
5. to develop a desire to extend or improve proficiency in languages through further language study, whether for interest, post-secondary requirements or vocational needs.

Three-year Program — Minimum Expectations for Skill Development and Cultural Understanding

The following minimum expectations for skill development and cultural understanding are considered to be part of the core or mandatory content.

Listening Comprehension

By the end of Grade 12, *the student will have developed the ability to*:

1. distinguish phonetic differences within the French sound system
2. distinguish French intonation and stress patterns
3. demonstrate understanding of familiar questions, statements and instructions that incorporate the basic elements of the program
4. demonstrate understanding of new combinations of structures and vocabulary of the program
5. understand various speakers using the linguistic structures of the program
6. recognize specific information and ideas
7. understand information in material containing cognates and a limited number of unfamiliar lexical items.

Speaking

By the end of Grade 12, *the student will have developed the ability to*:

1. produce accurately French sounds, intonation, rhythm, stress patterns, elision and liaison
2. respond orally to cues that require the use of basic linguistic elements of the program
3. produce a sentence by recombining known elements
4. describe a familiar situation from cultural or textual materials
5. relate a sequence of actions
6. ask for information using familiar vocabulary
7. interview someone, using basic elements of the program
8. speak with prior preparation on a selected topic
9. participate in a simple conversation or discussion on a familiar topic
10. express some personal ideas, feelings and routine activities.

Reading

By the end of Grade 12, *the student will have furthered the ability to*:

1. read silently with comprehension familiar materials learned orally

2. read aloud familiar vocabulary and global expressions with correct rhythm and pronunciation
3. read silently with comprehension recombinations and rearrangements of familiar material
4. read for general meaning material containing some unfamiliar cognates or vocabulary items
5. read for specific information and ideas
6. read for major ideas contained in a short text
7. read newspaper and magazine articles and/or simple stories, for pleasure.

Writing

By the end of Grade 12, *the student will have developed the ability to*:

1. produce new combinations or variations from given elements
2. write, from dictation, sentences containing recombinations of learned written materials
3. express oneself in original sentences in a short paragraph
4. write a guided composition
5. write a letter to a friend.

Cultural Understanding

By the end of Grade 12, *the student will have developed the ability to*:

1. demonstrate awareness of francophone cultures in Canada, France and other countries
2. describe some differences and similarities between these francophone cultures and one's own
3. recognize the significance of simple gestures, facial expressions, intonation and stress used by a speaker to convey one's intents, feelings or emotions
4. recognize the cultural connotations of familiar vocabulary and expressions
5. use common conventionalities.

Six-year Program — Minimum Expectations for Skill Development and Cultural Understanding: Grades 10, 11 and 12

The following expectations for skill development and cultural understanding are considered to be part of the core or mandatory content.

Listening Comprehension

By the end of Grade 12, *the student will be able to*:

1. distinguish phonetic differences within the French sound system
2. demonstrate understanding of familiar questions, statements and instructions that incorporate the basic elements of the program
3. demonstrate understanding of new combinations of structures and vocabulary of the program; e.g., simple and complex sentences, dialogues and short paragraphs
4. understand a variety of speakers in structured situations
5. perceive in the intonation and stress patterns used by a speaker to convey intentions, feelings and emotions
6. understand the general meaning of material containing some unfamiliar cognates or vocabulary items
7. recognize specific information and ideas

8. demonstrate an understanding of weather reports, newscasts, speeches and stories by answering general questions orally or in writing

9. demonstrate the ability to perceive levels of language usage: formal, informal, colloquial, regional

10. demonstrate understanding of a passage by answering questions, by selecting the major ideas, and by citing evidence to support conclusions.

Speaking

By the end of Grade 12, *the student will be able to*:

1. produce accurately French sounds, intonation, rhythm, stress patterns, elision and liaison

2. respond orally to cues that require the use of basic linguistic elements of the program

3. produce a sentence by recombining known elements

4. describe a familiar situation

5. relate a sequence of actions or ideas

6. summarize the main ideas of a familiar situation

7. ask for needed information on a specific topic

8. express some personal ideas and feelings, and relate personal experiences, within the range of one's own language experience and areas of interest

9. interview someone, and report findings

10. present a summary of a specified topic

11. explain how to do a practical activity, such as to cook, to assemble, to construct, to repair or play an instrument, to buy or to sell something

12. speak on a selected topic

13. exchange ideas in a conversation or discussion.

Reading

By the end of Grade 12, *the student will be able to*:

1. read aloud recombinations of familiar material, demonstrating correct sound-symbol correspondences, word groupings, basic intonation patterns and rhythm

2. read aloud materials containing some new semantic elements demonstrating the ability to apply generalizations about sound-symbol correspondences, word groupings, basic intonation patterns and rhythm

3. read silently with comprehension:

   3.1 familiar material learned orally

   3.2 recombinations and rearrangements of familiar material

   3.3 material containing cognates, punctuation, contextual clues and a limited number of unfamiliar lexical items

4. read for information based on themes for which vocabulary has been learned

5. read for specific information and ideas

6. read for major ideas contained in a short text

7. read in order to discuss a passage read by answering questions or by citing evidence to support conclusions

8. read in order to summarize orally or in writing the content of what has been read

9. read newspaper and magazine articles for information and for enjoyment.

Writing

By the end of Grade 12, *the student will be able to*:

1. copy variations of sentences and phrases learned orally
2. rearrange words and phrases
3. produce new combinations or variations from given elements
4. answer given questions in writing
5. write, from dictation, sentences containing recombinations of learned written materials.

In addition to the above, by the end of Grade 12, *the student will be able to*:

6. express oneself in simple, original sentences within the limits of the linguistic content specified in the program
7. make required variations (time, person, number) in given sentences
8. answer questions in writing based on a text read by the teacher
9. write a sequence of sentences from a given outline, from a list of linguistic elements or from visual and oral cues
10. write a summary
11. write a social letter
12. write a business letter
13. write a short narrative or descriptive paragraph based on prior reading, oral activity or personal experience.

Cultural Understanding

By the end of Grade 12, *the student will be able to*:

1. recognize familiar cultural information by supplying factual information that has been learned
2. recognize the significance of simple gestures, facial expressions, intonations and stress used by a speaker to convey his or her intents
3. recognize the connotative meanings of familiar vocabulary
4. recognize the current manifestations of French culture
5. interpret everyday cultural patterns
6. use common conventionalities
7. demonstrate knowledge of francophone cultures in Canada, France and other countries
8. recognize the similarities and differences between these expressions of culture and one's own
9. identify some of the values, attitudes and ideas of the target culture
10. identify some of the contributions made by francophones to Canadian society.

Nine-year Program — Minimum Expectations for Skill Development and Cultural Understanding: Grades 10, 11 and 12

The following minimum expectations for skill development and cultural understanding are considered to be part of the core or mandatory content.

Listening Comprehension

By the end of Grade 12, *the student will be able to*:

1. distinguish phonetic differences within the French sound system
2. distinguish French intonation and stress patterns

3. demonstrate understanding of familiar questions, statements and instructions that incorporate the required linguistic elements of the program

4. demonstrate understanding of new combinations of structures and vocabulary of the program

5. understanding a variety of speakers in structured situations

6. recognize specific information and ideas

7. demonstrate understanding of a passage by answering questions and by citing evidence to support conclusions

8. understand the general meaning of material containing some unfamiliar cognates of vocabulary items

9. demonstrate understanding of weather reports, newscasts, speeches and stories by answering general questions orally or in writing

10. demonstrate the ability to understand the attitude and intent of the speakers

11. demonstrate the ability to perceive levels of language usage: formal, informal, colloquial and regional.

Speaking

By the end of Grade 12, *the student will be able to*:

1. produce accurately French sounds, intonations, rhythm, stress patterns, elision and liaison

2. respond orally to cues that require the use of required linguistic elements of the program

3. produce a sentence by recombining known elements

4. describe a familiar situation with the linguistic elements of the program

5. relate a sequence of actions

6. interview someone, and report findings

7. present a summary of a specific topic

8. explain how to do something, such as cook, sew, assemble, construct, repair or play an instrument

9. speak on a selected topic

10. persuade someone to do something or to allow oneself to do something

11. present a critique of a film, radio or television program or book

12. use the language orally in affective contexts.

Reading

By the end of Grade 12, *the student will be able to*:

1. read silently with comprehension familiar material learned orally

2. read aloud familiar vocabulary and global expressions with correct pronunciation, rhythm and intonation

3. read silently, with comprehension, recombinations and rearrangements of familiar material

4. read for general meaning, material containing some unfamiliar cognates or vocabulary items

5. read for specific information and ideas

6. read in order to discuss a passage read by answering questions or by citing evidence to support conclusions

7. skim for comprehension of major ideas contained in a short text

8. read in order to summarize orally or in writing the content of what has been read

9. read newspaper and magazine articles for information and/or pleasure

10. use a unilingual French and French-English dictionary effectively

11. read in order to discuss selections from literature.

Writing

By the end of Grade 12, *the student will be able to*:

1. recombine familiar vocabulary and structures in sequences of sentences
2. write variations of known skits, dialogues and familiar narrative passages
3. write dictations based on familiar material learned orally
4. write answers to questions that use only familiar vocabulary
5. write guided compositions based on responses to questions from visual and oral cues
6. write answers to questions
7. write compositions
8. write a social letter
9. write a business letter.

Cultural Understanding

By the end of Grade 12, *the student will be able to*:

1. demonstrate knowledge of francophone culture in Canada, France and other countries
2. describe the differences and similarities between these francophone cultures and one's own
3. recognize the significance of simple gestures, facial expressions, intonation and stress used by the speaker to convey his or her intents, feelings or emotions
4. recognize the cultural connotations of familiar vocabulary and expressions
5. use common conventionalities
6. research an area of personal interest.

OBJECTIVES AND CONTENT

Specific skills, objectives and content of each grade level are outlined in the appropriate curriculum guide.*

The objectives and content are selected on the basis of the following categories of language use:

1. social conventions
2. identification of persons, animals or objects
3. expressing actions
4. expressing possessions
5. expressing time
6. expressing location
7. expressing emotion
8. expressing manner and means
9. expressing desire and permission
10. expressing cause and effect.

These language functions are considered to be main categories of verbal communications. In the classroom, each of the above categories may be realized separately or in various combinations. In this program, expected verbal performances and linguistic content are specified for each category.

Performance Statements

The performance statements indicate the minimum that students are expected to do in verbal communication in the second language.

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* *Nine-year French Program Curriculum Guide*, Alberta Education, 1980.
Six-year French Program Curriculum Guide, Alberta Education, 1980.
Three-year French Program Curriculum Guide, Alberta Education, 1980.

Linguistic Content

The linguistic content identifies the minimum language structures, sentence patterns, changes in word forms and vocabulary that students are expected to acquire in order to engage in verbal communication. The categories of language use, the performance statements and linguistic content for each grade level are not arranged in a sequential order, although it is expected that by the end of each grade the specified objectives and content will have been covered. It is expected that the content specified in the categories of language use, the skills described in the performance statements, and the minimum expectations will have been acquired by the end of Grade 12. The concept specified in the categories of language use and the skills and concepts identified in the performance statements are considered to be core content.

Cultural Themes

These cultural themes are to be developed as part of core content in Grades 10, 11 and 12, but specific topics within each theme are elective:

1. convention
2. role of the family in society
3. role of education in society
4. role of government in society
5. influence of geography, climate and natural resources on the economic and cultural development of the country
6. role of the arts and sciences and their impact on world cultures.

Core Components

In summary, the core or mandatory components consist of:

1. the minimum expectations for skill development and cultural understanding

2. the content specified in the categories of language use

3. the skills and concepts identified in the performance statements

4. the major cultural themes.

Elective Components

The elective components consist of:

1. suggested vocabulary

2. the suggested topics for each major cultural theme.

The elective components are found in the appropriate curriculum guide.

BASIC LEARNING RESOURCES

Three-year Program

Valette, Jean-Paul and Rebecca M. Valette. *French for Mastery*. Second edition. Books 1 and 2. Toronto, ON: D. C. Heath and Company, 1981–82.

Nos Amis/Le Monde des Jeunes. French 1 and 2. New York, NY: Harcourt Brace Jovanovich, 1980.

Six-year Program (Senior High)

McConnell, G. Robert et al. *Vive le Français*. Levels 4, 5 and 6. Don Mills, ON: Addison-Wesley, 1980–83.

Nine-year Program (Senior High)

Love, Jane and Susan Majhanovich. *En Français S'il Vous Plait C: Partez*. Toronto, ON: Copp Clark Pitman, 1982.

Majhanovich, Suzanne and Pauline Willis. *En Français S'il Vous Plait D: A Toute Vitesse*. Toronto, ON: Copp Clark Pitman, 1983.

GERMAN

The three-year program for German as a second language (German 10–20–30) is designed for school jurisdictions that offer only a minimal program at the senior high school level.

It presupposes that individual communication (for example, giving personal information or expressing a desire to do something) is best realized through the use of those linguistic structures and vocabulary items that are appropriate to the social context of a situation.

In such an approach, the grammar of a language is a means to an end; that is, communication rather than an end in itself. The selection of the structural features for cognitive understanding, practice and free usage is based on meaningful themes. This approach is in contrast to that used in traditional grammar-based resources which, although exhaustive and well organized in their presentation of structural features within a given lesson, often lack a direct relationship to actual language usage that would be apparent to the student. The communicative approach to learning and teaching a second language does not exclude the explicit and deliberate treatment of grammar, but subordinates it to the needs of a particular situation. While practising a particular language structure, a student would be thinking in terms of expressing an idea rather than in terms of learning an abstract grammatical form.

Ten basic categories of language use have been identified and are subdivided into 63 themes. Examples of their realization through language are given as "linguistic content".

The program includes:

1. program goals that reflect the Goals of Basic Education, together with a rationale to support the inclusion of German in a school program
2. general objectives that specify the minimum expectations by the end of German 30 for each language skill (listening, speaking, reading and writing) as well as for cultural understanding
3. specific theme and performance statements for each grade level
4. linguistic content within a given grade level
5. specification of core and elective components.

A. PHILOSOPHY AND RATIONALE

To avoid isolation, a country must provide, through its centres of education, opportunities for learning and teaching various second languages. Among the many existing languages and their respective cultures, the German heritage has always played a significant part in the Canadian mosaic.

German is the sixth most used language in the world. It is spoken by approximately 110 million people. Of these, 62 million live in the Federal Republic of Germany, 17 million in the German Democratic Republic, 7 million in Austria, 4 million in Switzerland and a substantial number in the Americas, in Australia and in South and East Africa. According to the Canadian Census of 1981, speakers of German form the fourth largest ethnic group in Canada and the second largest in Alberta. The Canadian student of German is learning a language used by thousands of Canadians, and opportunities exist to speak with people who use German for everyday communication. In Canada, several newspapers are published regularly in German; radio and television programs are broadcast in this language, and German movies are shown frequently in the larger urban centres.

The purposes for which a student may learn a second language can be grouped hierarchically according to one's needs regarding the self, family and society. Satisfaction of these needs on the individual level will have very positive effects at the societal level. An individual's needs may be identified with respect to:

Self

1. being able to communicate with native speakers in another country while travelling for business or pleasure
2. gaining insight into one's first language by acquiring a knowledge of the structure of a second language
3. satisfying one's curiosity about a foreign culture and its value system
4. becoming knowledgeable, as part of a general education, about people and institutions in other cultures, thereby gaining better insights into one's own culture
5. developing an appreciation of works of art or other cultural contributions
6. fulfilling educational requirements, such as admission to university
7. enhancing one's career/job prospects: for example, providing translation services to business and government; in the tourist trade; in the export and import business; in advertising; the airlines; foreign service; immigration; social work and health services; in the media; in library work or publishing; in scientific and technical research; secretarial/executive skills; and in teaching at the elementary, secondary or post-secondary levels.

Family

1. communicating with members of one's family from the "old country"
2. understanding better one's family heritage in Canada, and preserving that heritage for future generations.

Society

1. being able to satisfy the requirements of various institutions of Canadian society, such as government, business and education
2. being able to contribute to a multicultural society that attempts to foster understanding among the peoples of the world.

B. GOALS AND OBJECTIVES

Goals determine the broad, long-range outcomes of a program.

Although the following goals may be given varying emphases, they are identified as those appropriate to learning German and are intended to enable the student:

1. to acquire basic communication skills in German by:
    - 1.1 developing the receptive skills of listening and reading, including an understanding of intonation, gestures and visual clues that help to convey a message
    - 1.2 developing the productive skills of speaking and writing, including the appropriate intonation, gestures and visual clues that help to convey a message fluently and accurately

2. to broaden personal perspectives, and to develop cultural sensitivity by:
    2.1 developing a greater awareness and appreciation of various cultural values and lifestyles
    2.2 becoming more aware of Canada's multicultural heritage through the study of German
    2.3 developing a positive attitude toward people who speak another language, through a variety of exposures to the German language and culture
    2.4 becoming aware of and appreciating, through instruction and direct experiences, the valuable contributions of German-speaking peoples to culture and civilization
    2.5 expanding them to include the national and international scene, through active participation in a language spoken by many Canadians
    2.6 beginning to acquire those skills needed to function and communicate within a German-speaking society
3. to develop originality and creativity in language by:
    3.1 facilitating the application of the language skills to new and meaningful situations
    3.2 facilitating the expression of personal ideas, feelings and attitudes
4. to acquire additional concepts and generalizations about language and language learning by:
    4.1 recognizing the basic structural similarities and differences between German and English
    4.2 acquiring some knowledge of the structure and function of languages
    4.3 developing an awareness of regional, social and functional variations of spoken and written language
    4.4 developing a conscious knowledge of the skills and strategies used in learning a second language
5. to develop a desire to extend or improve one's proficiency in languages through further study, whether for interest, post-secondary requirements or vocational needs.

Minimum Expectations for Skill Development and Cultural Understanding

The following minimum expectations for skill development and cultural understanding are considered to be part of the core, or mandatory, content.

Listening Comprehension

With the successful completion of this program, *the student will have developed the ability to*:

1. distinguish phonemic differences within the German sound system
2. distinguish German intonation and stress patterns
3. demonstrate an understanding of familiar questions, statements and instructions that incorporate the basic elements of the program as specified in the curriculum guide
4. demonstrate an understanding of new combinations of structures and vocabulary of the program
5. understand various speakers in structured situations
6. recognize specific information and ideas within a given context

7. understand information in material containing cognates and a limited number of unfamiliar lexical items by inferring meaning from the context.

Speaking

With the successful completion of this program, *the student will have developed the ability to*:

1. produce comprehensible German sounds, intonation, rhythm, stress and elision with reasonable accuracy
2. respond to cues that require the use of the basic linguistic elements of the program
3. produce meaningful utterances by recombining known elements
4. describe a familiar situation
5. relate a sequence of actions
6. ask for information
7. interview someone, using the basic elements of language
8. speak with prior preparation on a selected topic
9. participate in a simple conversation or discussion on a familiar topic
10. express some personal ideas, feelings and attitudes.

Reading

With the successful completion of this program, *the student will have developed the ability to*:

1. read familiar materials silently, with comprehension
2. read aloud, familiar materials and global expressions with comprehension, correct rhythm and pronunciation
3. read with comprehension, recombinations and rearrangements of familiar materials
4. read, for general meaning, material containing some unfamiliar cognates or vocabulary items
5. read for specific information and ideas
6. read for major ideas contained in a short text
7. read simple newspaper and magazine articles and/or stories, for pleasure.

Writing

With the successful completion of this program, *the student will have developed the ability to*:

1. produce meaningful combinations or variations of given elements
2. write, from dictation, sentences containing recombinations of learned written materials
3. write a guided composition
4. describe a familiar situation
5. relate a sequence of actions
6. summarize a passage heard or read
7. write a letter to a friend.

Cultural Understanding

With the successful completion of this program, *the student will demonstrate an understanding and appreciation of*:

1. German-speaking cultures in Canada, Germany and other countries
2. some differences and similarities between the learner's culture and the various German-speaking cultures
3. the significance of social conventions, simple gestures, facial expressions, intonation and stress used by a speaker to convey intentions, feelings and attitudes
4. the cultural connotations of familiar vocabulary and expressions.

C. CONTENT

Categories of Language Use

The objectives and content are selected on the basis of categories of language use. They are:

1. social conventions
2. identification of persons, animals and things
3. expressing actions
4. expressing location
5. expressing time
6. expressing possession
7. expressing manner and means
8. expressing modes of action
9. expressing emotions and attitudes
10. expressing cause and effect.

These language functions are considered to be the main categories of verbal communication. In the classroom, each of the above categories may be realized separately or in various combinations. Examples of expected verbal performances in themes and linguistic content are specified for each category.

Themes

The themes indicate the minimum social interactions in which the students should be able to communicate in German.

Linguistic Content

The linguistic content identifies the minimum language structures, sentence patterns and vocabulary that students are expected to acquire.

The categories of language use, themes and linguistic content for each grade level are not arranged in any prescribed sequence, although it is recommended that the specified objectives and content be covered by the end of each grade. It is expected that the content specified in the categories of language use, the skills described in the themes listed in the linguistic content, and minimum expectations be mastered by the end of German 30.

Suggested Vocabulary

The vocabulary list contains the items in the linguistic content of the *Three-year German 10–20–30 Program Curriculum Guide*, 1984, and other words that are expected to be acquired by students successfully completing this program.

Cultural Themes

Cultural themes and topics are presented to assist the student in the development of insights into the way of life of German-speaking peoples, as well as the acquisition of knowledge about their achievements and contributions to culture and civilization. Specific cultural topics are considered to be elective.

Core Components

In summary, the core components consist of:

1. the minimum expectations for skill development and cultural understanding

2. the skills and concepts identified in the themes contained in the curriculum guide

3. the linguistic content specified for the three-year program

4. the major cultural themes.

Elective Components

The elective components consist of:

1. the suggested basic vocabulary

2. specific topics related to major cultural themes

3. the suggested classroom expressions.

D. BASIC LEARNING RESOURCES

Winkler, G. *Unsere Freunde Level 1*. New York, HBJ-Holt-Saunders, 1978.

ISBN 0153836458

Deutsch Heute Series. Stages 1, 2, 3. Nelson Publishers, 1984–86.

Winkler, G. *Die Welt Der Jugend, Level 2*. Student's edition. HBJ-Holt-Saunders, 1979.

ISBN 0153836954

Vorẅarts International. Student's edition, K1. Bonn: Gilde Buchhandlung Carl Kayser, 1977.

ISBN 0560014546

Vorẅarts International, Lehrerhandbuch. Teacher's handbook, K1–K2. Bonn: Gilde Buchhandlung Carl Kayser, 1980.

ISBN 0560014716

Vorẅarts International. Cassettes 1–2, K1. Bonn: Gilde Buchhandlung Carl Kayser, 1977.

ISBN S1039

Vorẅarts International. Slides, K1. Bonn: Gilde Buchhandlung Carl Kayser.

ISBN S1040

Vorẅarts International. Student's edition, K2. Bonn: Gilde Buchhandlung Carl Kayser, 1977.

ISBN 0560014538

Vorẅarts International. Cassettes 1–3, K2. Bonn: Gilde Buchhandlung Carl Kayser, 1977.

ISBN S1041

Vorẅarts International. Slides, K2. Bonn: Gilde Buchhandlung Carl Kayser.

ISBN S1042

ITALIAN

The teaching of Italian as a second language at the senior high school level involves a sequential three-year program consisting of Italian 10, 20 and 30.

The characteristics of the program include:

1. a set of objectives that reflect the Goals of Basic Education, along with a rationale to support the inclusion of Italian in a school program
2. specification of minimum expectations by the end of Italian 30 for each language skill (listening, speaking, reading and writing) and for cultural understanding
3. specification of performance statements and linguistic content for each of Italian 10, 20 and 30
4. specification of minimum core content for all students, as well as elective components for enrichment and remediation
5. suggested teaching and learning strategies and evaluation procedures.

A. PHILOSOPHY AND RATIONALE

Italian has been taught in some Alberta school systems since 1969. Experience with the existing programs, and evaluation thereof, have indicated a need for curricular guidelines for teachers and administrators. Such guidelines will help to provide students with learning experiences more appropriate to the national and international scenes, while at the same time recognizing the cultural needs of our student population.

Italian, an important international channel of communication, is acquiring increasing importance in Canada in response to the multicultural policies established by the federal government in 1971 The development of modern language programs satisfies the increasing needs of the student population of Alberta by diversifying and expanding their educational opportunities. Such programs set the stage upon which future generations of Canadians will be able to function effectively and play an important role in the international scene.

Languages are tools that enable the user to elicit and receive information, to express opinions and feelings; in effect, to communicate and, above all, to understand. Languages have different ways of leading speakers to focus on the reality that surrounds them. They function as catalysts for communication and understanding in a multicultural society as well as in the world community.

Growing global interdependence is a reality that cannot be overlooked. With widespread mobility, knowledge of more than one language is becoming increasingly valuable: tourists, technicians, business people, civil servants, diplomats, athletes — people from all walks of life — are going abroad to visit or to work. When hiring employees, multinational companies in particular, may consider knowledge of more than one language important.

Apart from these advantages, knowledge of a second or third language makes one capable of interpreting the thinking behind the words, thus opening the way for better relationships in the international community. Canada is a young nation with a large and vibrant community of new Canadians. The study of other languages will foster the achievement of not only a multicultural society but, above all, a multilingual society.

All Alberta students should, therefore, be given the opportunity and encouragement to study and learn Italian. In learning Italian as a second or third language, one gains new awareness and a greater understanding of culture, and of the similarities and differences between the Italian culture and other cultures. The study of Italian enhances the retention and reinforces the cultural and linguistic heritage of Italian-Canadians. Awareness that the patterns of living of each group are based on their environment and experiences will lead to greater open-mindedness, flexibility and readiness to understand and accept others as they are.

An awareness of the role of the Italian language in Alberta has always existed. However, as the world community shrinks and distances are shortened, the study of the Italian language and culture continues to grow steadily. Italian, as a language rooted in Latin and as a modern language, has played an important role in the development of Western civilization. Knowledge of Italian broadens one's cultural understanding of the western cultural heritage. Italian is an important channel of communication in the industrialized world. Interest in the study of Italian also stems from the fact that a significant number of Canadians are of Italian background. They wish to rediscover and reaffirm a culture of which they are a part and which is an integral part of the Canadian cultural mosaic. Knowledge of Italian will enable students to communicate more effectively in a greater variety of situations related to work, leisure and cultural activities, and in certain cases will serve to preserve their cultural backgrounds.

The acquisition of language skills, which extends the range of an individual's human relationships, results in a strong sense of personal achievement and satisfaction. Many of the skills used in learning another language are the same as those used in learning a first language. Through the learning of Italian, the learner can become conscious of those skills and how they apply to any language learning. In this process, the learner develops the ability to listen for meaningful sounds, to understand different elements of a sentence, and to analyze a message so as to grasp its meaning. Analyzing messages, reconstructing utterances and applying acquired knowledge to new situations enhances the development of problem-solving skills. By using the spoken language, one gains a clearer perception of how a language functions and what must be said in order to communicate. Through reading and writing in Italian, one becomes more aware of the shared conceptual bases of Italian, French and English. As a result of the commonalities and, to a certain extent, parallel development, the three languages complement one another. In addition, standard Italian interacts with both English and French, thus enriching itself and the other two languages through the acquisition of lexical and grammatical structures.

The purpose here is to outline a curriculum that will assist Alberta students to begin to develop the minimum basic skills necessary to communicate with others who use Italian, and thus better prepare them to take their place in the national and international communities.

B. GOALS AND OBJECTIVES

Goals are the broad, long-range and significant communicative outcomes of a program.

Although the following goals may be given varying emphases, they are all identified as important to learning Italian. These goals are intended to enable the student:

1. to acquire basic communication skills in Italian by:
   - 1.1 developing the receptive skills of listening and reading including, in the case of the former, an understanding of intonation, gestures and visual clues that help to convey a message

   - 1.2 developing the productive skills of speaking and writing including, in the case of the former, the appropriate intonation, gestures and visual clues that help to convey a message

2. to develop cultural sensitivity, and enhance personal development by:
   - 2.1 developing a greater awareness and appreciation of various cultural values and lifestyles
   - 2.2 developing a positive attitude toward people who speak another language, through a meaningful exposure to the Italian language and culture
   - 2.3 becoming more aware of one's cultural heritage through the learning of Italian
   - 2.4 becoming aware of and appreciating, through instruction and direct experiences, the valuable contributions of Italian-speaking peoples to civilization
   - 2.5 broadening one's perspectives to include the national and international scene through active participation in a language spoken by many Canadians
3. to develop originality and creativity in language by:
   - 3.1 enabling one to apply one's skills to new and meaningful situations
   - 3.2 enabling one to express one's ideas and feelings
   - 3.3 enabling one to discover a new dimension of one's personality
4. to acquire additional concepts and generalizations about language and learning by:
   - 4.1 recognizing the basic structural similarities and differences between Italian and English
   - 4.2 acquiring some knowledge of the structure and function of languages
   - 4.3 developing an awareness of regional, social and functional variations of spoken and written language
   - 4.4 developing a conscious knowledge of the skills and strategies used in learning a second language
5. to develop a desire to extend or improve proficiency in languages through further language study, whether for interest, post-secondary requirements or vocational needs.

Minimum Expectations for Skill Development and Cultural Understanding

The minimum expectations for skill development and cultural understanding are considered to be part of the core or mandatory content.

Listening Comprehension

By the end of Italian 30, *the student will have developed the ability to*:

1. distinguish phonetic differences within the Italian sound system
2. distinguish Italian intonation and stress patterns
3. demonstrate an understanding of familiar questions, statements and instructions that incorporate the basic elements of the program
4. demonstrate an understanding of new combinations of structures and vocabulary of the program
5. understand the linguistic structures of the program, when used by various speakers
6. recognize specific information and ideas
7. understand information in material containing cognates and a limited number of unfamiliar lexical items.

Speaking

By the end of Italian 30, *the student will have developed the ability to*:

1. produce accurately Italian sounds, intonation, rhythm, stress and elision
2. respond orally to cues that require the use of basic linguistic elements of the program
3. produce a sentence by recombining known elements
4. describe a familiar situation from cultural or textual materials
5. relate a sequence of actions
6. ask for information, using appropriate vocabulary
7. interview someone, using elements from the program
8. speak with prior preparation on a selected topic
9. participate in a conversation or discussion on a familiar topic
10. express his or her own ideas, feelings and routine activities.

Reading

By the end of Italian 30, *the student will have developed the ability to*:

1. read silently, with comprehension, familiar material learned orally
2. read aloud certain vocabulary and global expressions, with correct rhythm and pronunciation
3. read recombinations and rearrangements of familiar material silently, with comprehension
4. read material containing some unfamiliar cognates or vocabulary items, for general meaning
5. read for specific information and ideas
6. read for major ideas contained in a short text
7. read appropriate newspaper and magazine articles and/or simple stories, for pleasure.

Writing

By the end of Italian 30, *the student will have developed the ability to*:

1. produce new combinations or variations from given elements
2. write, from dictation, sentences containing recombinations of learned written material
3. express himself or herself in original sentences in a short paragraph
4. write a guided composition
5. write a letter to a friend
6. write a formal business letter.

Cultural Understanding

By the end of Italian 30, *the student will have developed the ability to*:

1. demonstrate an awareness of Italian cultures in Canada, Italy and other countries
2. describe some differences and similarities between other Italian cultures and his or her own
3. be aware of and understand meaningful historical experiences of Italians in Canada
4. recognize the significance of simple gestures, facial expressions, intonation and stress used by a speaker to convey intentions, feelings and emotions
5. recognize the cultural connotations of familiar vocabulary and expressions
6. use common conventions.

C. CONTENT

The objectives and content of the Italian program are selected on the basis of categories of language use. The following language functions are considered to be the main categories of verbal communication:

1. social conventions
2. identification
3. expressing actions
4. expressing location
5. expressing time
6. expressing possession
7. expressing manner and means
8. expressing permission and desire
9. describing people and things
10. expressing emotions and attitudes
11. expressing cause and effect.

In the classroom, each of the above categories may be realized separately or in various combinations. In this program, expected verbal performances and linguistic content are specified for each category. Specification of content by grade level is indicated in the *Three-year Italian 10–20–30 Program Curriculum Guide*, 1985.

Performance Statements

In this program, communication is defined as the transmission of messages among speakers and the achievement of understanding through the use of basic language skills. In contrast, fluency is defined as the transmission of messages among speakers through the use of advanced language skills in the learned second language. The primary objective of this program is to achieve the acquisition of basic communication skills in Italian.

The linguistic content is defined in terms of performance statements that indicate the minimum level of linguistic competency students are expected to achieve in communication in the second language.

Linguistic Content

The linguistic content identifies the minimum language structures, sentence patterns, changes in word forms and vocabulary that students are expected to acquire in order to engage in verbal communication.

The categories of language use, the performance statements and linguistic content for each level are not arranged in sequential order, although it is recommended that the specified objectives and content be covered by the end of each level. It is expected that the content specified in the categories of language use and skills described in the performance statements and minimum expectations be mastered by the end of Italian 30.

Suggested Vocabulary

The vocabulary is suggested for development of everyday themes and is intended to complement the vocabulary found in primary learning resources. These lists are an additional source for teacher reference and are considered to be elective.

Cultural Themes

Cultural themes and topics are presented to assist students to develop insights into the way of life of Italian-speaking peoples, as well as to acquire a knowledge of the people's achievements and contributions to civilization in general and Canadian culture in particular.

Core Components

In summary, the core components consist of:

1. the minimum expectations for skill development and cultural understanding
2. the content specified in the categories of language use
3. the skills and concepts identified in the performance statements
4. the major cultural themes
5. specific cultural topics.

Italian 10:	Distribuzione regionale e nazionale La famiglia italo-canadese Geografia dell'Italia
Italian 20:	Il contributo italiano in Canada Geografia dell'Italia
Italian 30:	Geografia dell'Italia Aspetti dell'Italia contemporanea

Elective Components

The elective components consist of:

1. suggested vocabulary
2. additional topics related to major cultural themes.

D. BASIC LEARNING RESOURCES

Cremona, Joseph. *Buongiorno Italia*. HBJ-Holt-Saunders, 1982. [Student Text, Videotapes]

ISBN 0563164794

Merlonghi, F. C. *Oggi in Italia*. Second edition. Nelson, 1982. [Student Text]

ISBN 0395318726

LATIN

This program is intended for beginning students of Latin at the senior high school level and consists of three sequential courses — Latin 10, 20 and 30.

The characteristics of the program include:

1. a set of goals and objectives that reflect the Goals of Basic Education, together with a rationale to support the inclusion of Latin in a school program
2. specification of minimum expectations by the end of Latin 30 for each language skill (listening, speaking, reading and writing) and for cultural understanding
3. specification of linguistic content for each level
4. specification of minimum core content for all students, as well as elective components for enrichment and remediation
5. suggested teaching and learning strategies and evaluation procedures.

A. PHILOSOPHY AND RATIONALE

Young minds need to be extended in their ways of thinking, and the learning of languages other than the mother tongue facilitates that extension. The study of Latin also develops creativity and a world-oriented outlook.

The learning of Latin opens a door to a different way of thinking. Writers of Latin, whether of the Roman era or later, were bound by the structure of their language to different forms of expression than those of English or French writers. The study of ancient civilization provides an important context for understanding contemporary political and social systems. Reading the classical Latin writers reveals to the student the socio-political foundations of Western civilization and its origins in ancient civilization.

Latin as a subject possesses an integrative-functional element; that is, the content characteristics of Latin enable one to apply or transfer the skills and knowledge to other subject areas.

A student who has read works in Latin is better equipped to understand and appreciate many of the historical, sociological or mythological classical allusions found in English and other European literature.

With the *Official Languages Act* and the multiculture policy, there is an increased interest in second language study in Alberta that has indirectly influenced the demand for Latin. Latin is the basis of the Romance languages. Taken before, or along with one or more of these languages, it provides a grammatical and lexical basis that enables the student to learn more economically and efficiently. Latin is also related in structure to the Germanic and Slavic languages.

Latin is the source of more than half of the English language vocabulary through derivatives, the Romance languages and Latin phrases adopted verbatim. The study of Latin can help a student to enrich his or her vocabulary, comprehend new words, improve spelling and understand grammatical structures in all languages related to Latin. Language transfer studies indicate that students who have studied Latin have a distinct advantage over those who have not in the areas of word power and reading skills.

In the area of social studies, a background in the cultural aspect of Latin studies supports the study of concepts such as citizenship, valour, honour and patriotism, as well as the study of civilization and theories in political science. The cultural content of Latin is also related to geography and history.

The study of Latin and Roman civilization is related to art, art history and architecture. It is associated with law, through terminology, the historical perspective and the codification of laws. It is connected to the sciences, through terminology in biology and chemistry. Its grammatical analysis skills are applicable to computer science. Whatever the student's motivation may be, Latin provides him or her with a useful framework for the application of logical thinking and accuracy.

While Latin has been long considered useful to students intent on a career in law or the medical and scientific fields, it may be of even more service to those planning to study literature, classics, languages, archeology, theology, semantics and history.

Latin is rarely used as a spoken language today. This very fact makes it attractive to a student who wishes or needs to study a second language but who has difficulty with the spoken aspect; this would include those students with a hearing or speech handicap or poor auditory memory.

These many specific benefits of the study of Latin may be resolved into one general value: Latin helps to convey to us the message of the past while enhancing our concept of its function in the present.

B. GOALS AND OBJECTIVES

Goals designate the broad, long-range and significant outcomes desired from a program.

Although the following goals may be given varying emphases, they are all identified as appropriate to learning Latin. These goals are intended to enable the student to:

1. read Latin with understanding through knowledge of vocabulary, grammatical structure and stylistic devices
2. learn more about the English language and other Latin-related languages through expansion of vocabulary and structures of thought expression
3. learn about the ancient world and its values, thereby enhancing his or her link and sense of continuity with the past
4. compare and contrast contemporary Western civilization with the past in respect to social, economic and political structures and values, providing an opportunity for the application of critical thinking skills
5. appreciate the contribution of Latin to English language and literature, as well as to languages and literatures that are related to Latin
6. enhance and enrich the use of English and Latin-related languages, particularly as they relate to other subject areas
7. pronounce Latin words correctly.

Minimum Expectations for Skill Development and Cultural Understanding

The following minimum expectations for skill development and cultural understanding are considered to be part of the core, or mandatory, content of the Latin program.

Listening Comprehension

By the end of Latin 30, *the student will have developed the ability to*:

1. distinguish phonetic differences within the Latin sound system
2. distinguish Latin intonation and stress patterns
3. recognize common Latin phrases and classical allusions, when used in English by various speakers
4. understand basic questions, statements and instructions given in the classroom setting
5. distinguish case and tense indicators.

Speaking

By the end of Latin 30, *the student will have developed the ability to*:

1. produce accurately the sounds and stress of classical Latin (long and short vowels, semivowels, consonants and dipthongs)
2. ask basic questions for information, make statements and reply to instructions given in the classroom setting.

Reading

To achieve the primary objective of learning to read and understand Latin, by the end of Latin 30, *the student will have developed the ability to*:

1. read familiar materials silently, with comprehension
2. read recombinations and rearrangements of familiar material silently, with comprehension
3. read material containing some unfamiliar forms and vocabulary items, for general information about Roman history, civilization and mythology
4. read a representative selection of works by classical authors (adapted and original)
5. read a representative selection of readings that survey Latin literature (from the third century B.C. to modern times)
6. read aloud materials (with familiar vocabulary, idiomatic expressions and forms) with comprehension and correct pronunciation.

Writing

To reinforce the primary objective of learning to read and understand Latin, by the end of Latin 30, *the student will have developed the ability to*:

1. produce sentences or phrases that have combinations or variations of given forms, as provided by the material in the textbook or by the teacher.

Cultural Understanding

By the end of Latin 30, *the student will demonstrate an understanding and appreciation of*:

1. the influence of Latin and Roman culture on Western culture in areas such as literature, art, law, and social and political systems
2. the immense contribution of the Latin language and classical mythology to the English language
3. the similarities and differences between Roman civilization and culture and contemporary civilization.

C. CONTENT

Course Outline

Note: The linguistic content and cultural themes within each course level are not arranged in sequential order.

Linguistic Content

Suggested outline for the study of grammar as a basis for reading skills:

Latin 10	Nouns	– first, second, third declensions
	Adjectives	– first, second, third declensions
	Adverbs	– positive degree
	Verbs	– all conjugations – active voice – all tenses of indicative mood – complementary infinitives – commands (imperative active) – *sum*
	Interrogative words, simple questions	
	Pronouns	– first, second, *quis, quid*
	Numerals one to ten	
	Expressions of place	
Latin 20	Nouns	– fourth, fifth declensions
	Adjectives	– comparison (regular and common irregular)
	Adverbs	
	Verbs	– all tenses of all conjugations in passive voice – *possum* and *eo*
	Subordinate clauses	– with indicative mood
	Pronouns	– third person, demonstratives (*hic/ilille*)
	Datives	– with adjectives, verbs, double
	Relative pronoun	
	Ablative absolute	
	Expressions of time	
Latin 30	Infinitives	– present, perfect, future – active and passive
	Indirect statement	
	Participles	
	Deponents and semi-deponents	
	Subjunctives	
	Irregular verbs	– *fero, fio, volo, malo* and *nolo*
	For reading only:	– gerunds and gerundives – conditional sentences – indirect questions and commands – verbs of fearing – expressions of purpose – supine

Cultural Themes

The major cultural themes and selected specific topics of the Latin program are to be developed as part of the core content. Additional specific topics related to the themes are elective. The major cultural themes include:

1. the history of ancient Rome
2. civilization
3. classical mythology
4. the legacy of Latin and its influence on modern languages.

Core Components

In summary, the core components consist of:

1. the minimum expectations for skill development and cultural understanding
2. the content specified in the linguistic component
3. major cultural themes
4. specific cultural topics.

Latin 10: Early History of Rome
(the foundation, early kings, first expansions)

Latin 20: Caesar's Time
(history, the Roman army, the people)

Latin 30: Daily Life During the Empire
(the family, the home, education, food, army)

Elective Components

The elective components consist of:

1. additional cultural topics within major cultural themes.

D. BASIC LEARNING RESOURCES

There are no basic learning resources for Latin at the present time.

SPANISH

The three-year Spanish program begins in Grade 10 and ends in Grade 12. It is designed for those school jurisdictions wishing to offer Spanish as a second language at the senior high school level.

The characteristics of the program include:

1. a set of objectives that reflect the Goals of Basic Education, together with a rationale to support the inclusion of Spanish in a school program
2. specification of minimum expectations for each language skill (listening, speaking, reading and writing) and for cultural understanding by the end of Grade 12
3. specification of performance statements and linguistic content for each of Grades 10, 11 and 12
4. specification of minimum core content for all students, as well as elective components for enrichment and remediation
5. suggested teaching and learning strategies and evaluation procedures.

A. PHILOSOPHY AND RATIONALE

To provide effectively the learning experiences needed by the changing society it serves, the school system must grow and adapt. This language program is presented to facilitate the growth of secondary school instruction in Spanish.

Those who study another language increase their knowledge of their own language as they discover similarities and differences. Learning another language leads to greater awareness and understanding of other cultures and of one's own culture. Language skills are developed that enable the learner to gather, analyze and process information in order to solve problems. The application of these skills extends the range of an individual's human relationships and results in a strong sense of personal achievement and satisfaction.

Growing global interdependence is a reality that cannot be overlooked. With widespread mobility, knowledge of more than one language is becoming increasingly valuable. Tourists, technicians, business people, civil servants, diplomats, athletes — people from all walks of life — are going abroad more frequently to visit or to work. Students in our schools cannot foresee where they will be called upon to work. The study of Spanish could be advantageous, if not vital, in areas such as government or international economics. Multinational companies in particular, when hiring employees, may consider knowledge of more than one language important. Although knowledge of Spanish may not be the primary qualification demanded by an employer, it may well be the deciding factor in obtaining employment in a world where the job market is becoming more competitive.

The Hispanic population in Alberta has grown significantly in the last few years, especially in the large urban centres. This growth has brought Spanish-speaking peoples into closer contact with us. When one learns Spanish, one also learns how the cultural setting has been influenced by environment and history. The multicultural nature of our province requires citizens to be open-minded, flexible and accepting. Just as the individual can be enriched by new experiences, so can a community be enriched by the influence of other cultures.

Spanish is truly a word language, being one of the five official languages of the United Nations and the official language of Spain and nineteen countries in Hispanic America. More than one quarter of a billion people in the world speak Spanish as their mother tongue. The Spanish language has been taught in Canada at the University of Toronto since 1853. Many provinces, including British Columbia, Ontario, Quebec, Manitoba and Nova Scotia presently continue this tradition by offering high school Spanish programs. By following a matriculation program in Spanish, Alberta students can better prepare themselves for further study at any of the more than forty Canadian universities that offer Spanish programs.

The hispanic culture has not been limited to Europe but followed the pattern of Spanish colonization to the Americas, the Philippines, Africa and other areas. These hispanic nations have produced outstanding examples of cultural achievement. A working knowledge of Spanish would make the literary and cultural achievements of these nations more accessible to Alberta students.

It is the purpose of this document to outline a curriculum that will enable Alberta students to develop the minimum basic skills necessary to communicate with others who use Spanish, the better to prepare them to take their place in our national and international communities.

B. GOALS AND OBJECTIVES

Goals designate the broad, long-range and significant outcomes desired of a program.

The following goals may receive varying emphases and are intended to enable the student:

1. to acquire basic communication skills in Spanish by:
    1.1 developing listening, viewing and reading skills including, in the case of listening and viewing, an understanding of intonation, gestures and visual clues that help to convey a message
    1.2 developing speaking and writing skills including, in the case of the former, the appropriate intonation, gestures and visual clues that help to convey a message
2. to develop cultural sensitivity and enhance personal development by:
    2.1 developing a greater awareness and appreciation of various cultural values and lifestyles
    2.2 developing a positive attitude toward people who speak another language through a meaningful exposure to the Spanish language and the hispanic culture
    2.3 becoming more aware of one's own cultural heritage through learning Spanish
    2.4 becoming aware of and appreciating, through instruction and direct experiences, the valuable contributions of Spanish-speaking peoples to civilization
    2.5 broadening one's perspectives to include the national and international scene through active participation in a language spoken in Canada and throughout the world
3. to develop originality and creativity in language by:
    3.1 applying one's skills to new and meaningful situations

    3.2 expressing one's own ideas and feelings

    3.3 discovering a new dimension to one's personality

4. to acquire additional concepts and generalizations about language and learning by:

    4.1 recognizing the basic structural similarities and differences between Spanish and English

    4.2 acquiring some knowledge of the structure and function of languages

    4.3 developing an awareness of regional, social and functional variations of spoken and written language

    4.4 developing a conscious knowledge of the skills and strategies used in learning a second language

5. to develop a desire to extend or improve a proficiency in languages through further study, whether for interest, post-secondary requirements or vocational needs.

Minimum Expectations for Skill Development and Cultural Understanding

The following minimum expectations for skill development and cultural understanding are considered to be part of the core or mandatory content.

Listening Comprehension

With the successful completion of this program, *the student will have developed the ability to*:

1. distinguish phonetic and phonemic differences within the Spanish sound system
2. distinguish Spanish intonation and stress patterns
3. demonstrate an understanding of familiar questions, statements and instructions that incorporate the basic elements of the program as specified in the curriculum guide
4. demonstrate an understanding of new combinations of structures and vocabulary of the program
5. understand various speakers, in structured situations
6. listen to weather reports, newscasts, speeches and stories, and answer general questions orally or in writing
7. identify gestures and visual clues that convey a message.

Speaking

With the successful completion of this program, *the student will have developed the ability to*:

1. produce, with reasonable accuracy, Spanish sounds, intonation, rhythm, stress and linking patterns
2. respond orally, using the basic linguistic elements of the program
3. produce a sentence by combining known elements
4. describe a familiar situation
5. relate a sequence of actions
6. summarize the main ideas of a familiar situation within the range of one's language experience
7. ask for information
8. express one's own ideas and feelings within the range of one's language experience and areas of interest
9. interview someone, using the basic elements of the program

10. explain how to do something, such as cook, assemble, construct, sew, repair or play an instrument

11. speak with prior preparation on a selected topic.

Reading

With the successful completion of this program, *the student will have developed the ability to*:

1. read aloud combinations of familiar material, demonstrating correct sound-symbol correspondences, word groupings, basic intonation patterns and rhythm

2. read aloud materials containing some new semantic elements, demonstrating the ability to apply generalizations about sound-symbol correspondences, word groupings, basic intonation patterns and rhythm

3. read silently with comprehension:

    3.1 familiar material learned orally

    3.2 combinations and rearrangements of familiar material

    3.3 material containing cognates, punctuation, contextual clues and a limited number of unfamiliar lexical items

4. read for information based on themes for which vocabulary has been learned

5. demonstrate comprehension of a passage read by answering questions or by citing evidence to support conclusions

6. skim for comprehension and major ideas contained in a short text

7. read newspapers and magazine articles for information and/or pleasure

8. use a unilingual Spanish and a Spanish-English dictionary effectively.

Writing

With the successful completion of this program, *the student will have developed the ability to*:

1. write, from dictation, sentences containing recombinations of learned written materials

2. answer given questions in writing

3. produce new combinations or variations from given elements

4. express himself or herself in simple, original sentences within the limits of the linguistic content specified in the program

5. make required variations (time, person, number) in given sentences

6. write a sequence of sentences from a given outline, from a list of linguistic elements, or from visual and oral cues

7. write a letter to a friend.

Cultural Understanding

With the successful completion of this program, *the student will demonstrate knowledge of*:

1. Hispanic cultures

2. some differences and similarities between these cultures and one's own

3. cultural connotations of familiar vocabulary

4. the ability to use social conventions, gestures, facial expressions, intonation and stress patterns employed by a speaker to convey intentions, feelings and emotions.

C. CONTENT

The objectives and content are selected on the basis of categories of language uses. Examples are:

1. social conventions
2. identification of persons and things
3. expressing actions

4. expressing location
5. expressing time
6. expressing possession
7. expressing quantity
8. expressing permission and desire
9. describing people and things
10. expressing emotions and attitudes
11. expressing relationships
12. expressing cause and effect.

These language functions are considered to be the main categories of verbal communications. In the classroom, each of the above categories may be realized separately or in various combinations. In this program, expected verbal performances and linguistic content are specified for each category.

Performance Statements

The performance statements indicate the minimum that students are expected to do in verbal communication in the second language.

Linguistic Content

The linguistic content identifies the minimum language structures, sentence patterns, changes in word forms, and vocabulary that students are expected to acquire in order to engage in verbal communication.

The categories of language use, the performance statements and linguistic content for each grade level are not arranged in a sequential order, although it is recommended that the specified objectives and content be covered by the end of each grade. It is expected that the content specified in the categories of language use, and the skills described in the performance statements and general objects, be mastered by the end of Grade 12.

Suggested Vocabulary

The vocabulary is suggested for development of everyday themes and is intended to complement the vocabulary found in primary learning resources. These lists are an additional source for teacher reference and are considered to be elective.

Cultural Themes

The major cultural themes of this program are to be developed as part of the core content, but specific topics within each theme are elective. The major cultural themes include:

1. social relations at the individual level, the family and the community
2. economic and political aspects of Hispanic life
3. education and cultural features of Hispanic life
4. aspects of history and geography of the Hispanic people
5. art and play.

Core Components

In summary, the core components consist of:

1. the general objectives for skill development and cultural understanding
2. the content specified in the categories of language use
3. the skills and concepts identified in the performance statements
4. the major cultural themes.

Elective Components

The elective components consist of:

1. the suggested vocabulary
2. the specific topics within the cultural themes.

D. BASIC LEARNING RESOURCES

Grade 10

Narvez, L. and Marvin Melynk. *Ambientes hispánicos, Program 1.* Irwin Publishing, 1980. [Student Text]

ISBN 0884365441

Melynk, Marvin. *Ambientes hispánicos, Program 1.* Multimedia Kit. Irwin Publishing, 1980.

ISBN 0884366642

da Silva, Z. S. *Invitación al español: Usted y yo.* Collier Macmillan Canada, Inc., 1975. [Student Text]

ISBN 0022711007

Grades 11 and 12

Narvez, L. *Ambientes hispánicos, Program 2.* Irwin Publishing, 1981. [Student Text]

ISBN 0884365468

Ambientes hispánicos, Program 2. Irwin Publishing, 1981. [Multimedia Text]

ISBN 0884366650

da Silva, Z. S. *Invitación al español: Nuestro mundo.* Collier Macmillan Canada, Inc., 1975. [Student Text]

ISBN 0022712003

UKRAINIAN

At the senior high school level, two programs are available for Ukrainian as a second language:

1. a three-year program
2. the senior high portion of a six-year program.

The three-year Ukrainian program begins in Grade 10 and ends in Grade 12. It is designed for those school jurisdictions wishing to offer Ukrainian as a second language at the high school level.

The new six-year program in Ukrainian as a second language begins in Grade 7 and is part of the six-year sequence, Grades 7 to 12. It is designed for school jurisdictions interested in offering an articulated Ukrainian program beginning in Grade 7 and continuing through Grade 12.

The program is intended to increase the effectiveness of second language learning by greater specificity and improved articulation. Continuity from year to year is essential for achieving the objectives of this program.

The characteristics of the program include:

1. a set of objectives that reflect the Goals of Basic Education, together with a rationale to support the inclusion of Ukrainian in a school program
2. specification of minimum expectations for each language skill (listening, speaking, reading and writing) and for cultural understanding by the end of Grade 12
3. specification of performance statements and linguistic content for each of Grades 10 through 12
4. specification of minimum core content for all students, as well as elective components for enrichment and remediation
5. suggested teaching and learning strategies and evaluation procedures.

A. PHILOSOPHY AND RATIONALE

The Ukrainian language and culture have been present in Alberta for nearly a century. Until the late 1950s, however, Ukrainian was generally taught after school hours in evening and Saturday classes. A formal provincial program in Ukrainian as a second language is a relatively new phenomenon. This being the case, it is desirable and necessary to strengthen and improve the guidelines for teachers and administrators in order to provide students with learning experiences that lead to more effective outcomes appropriate to local, provincial, national and international scenes.

Canada is a multicultural society with Ukrainians ranking as a significant minority group whose history, traditions and culture are recognized as distinct in the nation. Among Canada's different peoples and cultures, Ukrainians are identified closely with the development and building of the country. It is well known that Ukrainians played a significant role in settling the West. As the Ukrainian language and culture are recognized as a prominent facet of the Canadian mosaic, the study of the Ukrainian language is therefore important to the children of the present generation so that they may assume the rightful and natural heritage of their forefathers. For students of non-Ukrainian origin, the study of Ukrainian as a second language may lead to an appreciation and understanding of a culture and language different from their own.

Because Ukrainians have settled in a great number of countries all over the world, Ukrainian has become a *lingua franca*. To illustrate, Ukrainian is the language of 50 million people of the world living in the Ukraine, Canada, the United States, Brazil, Argentina, Western Europe, Great Britain and Australia. The student of Ukrainian will discover that Ukrainian is closely related to other Slavic languages. Since there are almost 300 million people in the world speaking a Slavic language, Ukrainian can become an important key to communication in many parts of the world. Students should, therefore, be given the opportunity and encouragement to acquire Ukrainian as an additional language.

In learning Ukrainian one gains a new awareness and a greater understanding of culture through the realization that there are similarities and differences between Ukrainian- and English-speaking peoples. Awareness that the patterns of living of each group are based on one's environment and experiences will, it is expected, lead to greater open-mindedness, flexibility and readiness to understand and accept others as they are.

Languages are tools that enable the user to elicit and receive information, to express opinions and feelings; in effect, to communicate. They have different ways of leading speakers to focus on the reality that surrounds them. In our multicultural society, knowledge of another language should thus enable an individual to communicate more effectively in a greater variety of situations related to work or leisure activities. The application of language skills may result in a strong sense of personal achievement and satisfaction. Moreover, the study of Ukrainian fosters a sense of cultural identity.

Many of the skills used in learning another language are the same as those used in learning one's first language. Through the learning of Ukrainian, the learner can become conscious of those skills and how they apply to any language learning. In this process, the learner develops the ability to listen for meaningful sounds, to understand different elements of a sentence, and to analyze a message so as to grasp its meaning. Analyzing messages, reconstructing utterances, and applying acquired knowledge to new situations may enhance the development of problem-solving skills. By using the spoken language, one gains a clearer perception of how the language functions, and of what must be said in order to communicate. Through reading and writing in Ukrainian, one becomes more aware of the shared conceptual basis of Ukrainian and English, as well as of the contrastive features of the two languages.

Growing global interdependence is a reality that cannot be overlooked. With widespread mobility, knowledge of more than one language is becoming increasingly valuable: tourists, technicians, business people, civil servants, diplomats, athletes — people from all walks of life — are going abroad more frequently to visit or to work. Students in our schools cannot foresee where they will be called upon to work. Not only the tourist trade but also multinational companies and many government agencies may consider knowledge of more than one language important in obtaining employment in a world where the job market is more competitive.

It is the purpose of this document to outline a curriculum that will help Alberta students to develop the skills necessary to communicate with others who use Ukrainian, and to preserve the Ukrainian language and culture.

B. GOALS AND OBJECTIVES

Goals designate the broad, long-range and significant outcomes desired from a program.

Although the following goals may be given varying emphases, they are identified as those appropriate to learning Ukrainian and are intended to enable the student:

1. to acquire basic communication skills in Ukrainian by:
    - 1.1 developing the receptive skills of listening, reading and viewing
    - 1.2 developing the expressive skills of speaking and writing
2. to develop cultural sensitivity and enhance personal development by:
    - 2.1 becoming more aware of his or her own cultural heritage through exposure to Ukrainian
    - 2.2 developing a positive attitude toward people who speak another language, through a meaningful exposure to the Ukrainian language and culture
    - 2.3 developing a greater awareness and appreciation of cultural values and lifestyles in Canada and in other countries
    - 2.4 becoming aware of and appreciating, through instruction and direct experiences, the valuable contributions of Ukrainian-speaking peoples to civilization
3. to develop originality and creativity in language by:
    - 3.1 enabling one to apply one's skills to new and meaningful situations
    - 3.2 enabling one to express one's ideas and feelings
    - 3.3 enabling one to discover a new dimension to one's personality
4. to acquire additional concepts and generalizations about language and language learning by:
    - 4.1 recognizing the basic structural similarities and differences between Ukrainian and other languages
    - 4.2 acquiring some knowledge of the structure and function of languages
    - 4.3 developing an awareness of regional, social and functional variations of spoken and written Ukrainian
    - 4.4 developing a conscious knowledge of the skills and strategies used in learning a second language
5. to develop a desire to extend or improve one's proficiency in Ukrainian through further language study, whether for travel, interest, social needs, post-secondary requirements or vocational needs.

Three-year Program — Minimum Expectations for Skill Development and Cultural Understanding

The following minimum expectations for skill development and cultural understanding are considered to be part of the core or mandatory content:

Listening Comprehension

Upon completion of Grade 12, *the student will be able to*:

1. distinguish phonetic differences that affect meaning, such as accent changes and case endings
2. perceive in the intonation and stress patterns used by a speaker to convey intentions, feelings and emotions
3. demonstrate an accurate understanding of familiar questions, statements and instructions that incorporate the basic elements of the program

4. comprehend new combinations of structure and vocabulary of the program, including simple and complex sentences, dialogues and short paragraphs

5. understand a variety of speakers in structured situations

6. understand the general meaning of material containing a limited number of unfamiliar lexical items or readily understood cognates.

Speaking

Upon completion of Grade 12, *the student will be able to*:

1. produce acceptable pronunciation, intonation, stress and euphonic patterns

2. respond orally to cues that require the use of basic linguistic elements of the program

3. ask for information on a specific topic

4. produce a sentence by recombining known elements

5. describe a familiar situation

6. relate a sequence of actions or ideas

7. summarize the main ideas of a familiar situation

8. express one's own ideas and feelings within the range of one's own language experience and areas of interest.

Reading

Upon completion of Grade 12, *the student will be able to*:

1. read aloud new combinations of familiar material and material containing some new semantic elements demonstrating correct sound-symbol correspondence, word groupings, basic intonation patterns and accents

2. read silently with comprehension:

    2.1 familiar material learned orally

    2.2 new combinations and rearrangements of familiar materials

    2.3 material containing some vocabulary whose meaning can be inferred

3. read for information based on themes for which vocabulary has been learned.

Writing

Upon completion of Grade 12, *the student will be able to*:

1. produce new combinations or variations of given elements from sequentially developed exercises

2. respond to given questions based on previously learned material upon reading texts

3. write from dictation sentences containing new combinations of learned written material

4. make required variations (person, number, time) in given sentences

5. write a sequence of sentences from a given outline, from a list of linguistic elements, or from visual and oral cues

6. express oneself in simple, original sentences within the limits of the linguistic content specified in the program.

Cultural Understanding

At the end of Grade 12, *the student will be able to*:

1. relate factual, cultural information that has been learned

2. recognize the significance of simple gestures, facial expressions, intonations and stress patterns used by a speaker to convey intentions, feelings and emotions

3. recognize the connotative meanings of familiar vocabulary
4. speak and write about differences and similarities within Ukrainian culture
5. recognize the current manifestations of Ukrainian culture
6. interpret everyday cultural patterns
7. use common conventions.

Six-year Program — Minimum Expectations for Skill Development and Cultural Understanding: Grades 10, 11 and 12

The minimum expectations for skill development and cultural understanding are considered to be part of the core or mandatory content. The following expectations are generally arranged by order of increasing difficulty.

Listening Comprehension

By the end of Grade 12, *the student will be able to*:

1. distinguish phonetic differences within the Ukrainian sound system
2. demonstrate an understanding of familiar questions, statements and instructions that incorporate the basic elements of the program
3. demonstrate an understanding of new combinations of structures and vocabulary of the program
4. grasp the general meaning of material containing cognates and a limited number of unfamiliar lexical terms
5. understand a variety of speakers, in structured situations
6. perceive in the intonation and stress patterns used by a speaker to convey intentions, feelings and emotions
7. understand the general meaning of material containing some unfamiliar cognates or vocabulary items
8. recognize specific information and ideas
9. demonstrate an understanding of weather reports, newscasts, speeches and stories by answering general questions orally and in writing
10. demonstrate the ability to understand the intent and attitude of a speaker
11. demonstrate the ability to perceive levels of language usage: formal, informal, colloquial, regional
12. discuss a passage by answering questions, by selecting the major ideas, and by citing evidence to support conclusions.

Speaking

By the end of Grade 12, *the student will be able to*:

1. accurately produce Ukrainian sounds, intonation, rhythm, stress patterns, elision and liaison
2. respond orally to cues that require the use of basic linguistic elements of the program
3. produce a sentence by recombining known elements
4. describe a familiar situation
5. relate a sequence of actions or ideas
6. summarize the main ideas of a familiar situation
7. ask for needed information on a specific topic
8. express some personal ideas and feelings, and relate personal experiences within the range of one's own language experience and areas of interest

9. interview someone, and report findings

10. present a summary on a specified topic

11. explain how to do a practical activity, such as cook, assemble, construct, repair or play an instrument, buy or sell something

12. speak on a selected topic

13. exchange ideas in a conversation or discussion.

Reading

By the end of Grade 12, *the student will be able to*:

1. read aloud recombinations of familiar material, demonstrating correct sound-symbol correspondences, word groupings, basic intonation patterns and rhythm

2. read aloud materials containing some new semantic elements demonstrating the ability to apply generalizations about sound-symbol correspondences, word groupings, basic intonation patterns and rhythm

3. read silently with comprehension:

   3.1 familiar material learned orally

   3.2 recombinations and rearrangements of familiar materials

   3.3 material containing cognates, punctuations, contextual clues and a limited number of unfamiliar lexical items

4. read for information, themes for which vocabulary has been learned

5. read for specific information and ideas

6. read for major ideas contained in a short text

7. discuss a passage read by answering questions or by citing evidence to support conclusions

8. summarize orally or in writing the content of what has been read

9. read newspaper and magazine articles for information and for enjoyment.

Writing

By the end of Grade 12, *the student will be able to*:

1. copy variations of sentences and phrases learned orally

2. rearrange words and phrases

3. produce new combinations and phrases learned orally

4. answer given questions in writing

5. write from dictation, sentences of learned written materials

6. express oneself in simple original sentences within the limits of the linguistic content specified in the program

7. make required variations (time, person, number) in given sentences

8. answer questions in writing based on a text read

9. write a sequence of sentences from a given outline, from a list of linguistic elements, or from visual and oral cues

10. write a summary

11. write a social letter

12. write a business letter

13. write a short narrative or descriptive paragraph based on prior reading, oral activity or personal experience.

Cultural Understanding

By the end of Grade 12, *the student will be able to*:

1. relate factual information that has been learned

2. recognize the significance of simple gestures, facial expressions, intonations and stress patterns used by a speaker to convey intentions

3. recognize the connotative meanings of familiar vocabulary

4. recognize the current manifestations of Ukrainian culture

5. interpret everyday cultural patterns

6. use common conventions

7. demonstrate a knowledge of Ukrainian cultures in Canada and in other countries

8. recognize the similarities and differences between these expressions of culture and one's own

9. identify some of the values, attitudes and ideas of the target culture

10. identify some of the contributions made by Ukrainians to Canadian society.

C. CONTENT

Specific skills, objectives and content of each grade level are outlined in the *Six-year Ukrainian Program Curriculum Guide*, 1981 (Grades 7-12) and the *Three-year Ukrainian Program Curriculum Guide*, 1981 (Grades 10-12).

The objectives and content are selected on the basis of categories of language use. Examples are:

1. social conventions
2. identification of persons and things
3. expressing actions
4. expressing location
5. destination
6. describing people and things
7. expressing permission and desire
8. expressing quantity
9. expressing time
10. expressing possession
11. expressing cause and effect
12. specification of persons and objects
13. indirect speech
14. identification of person's nationality.

These language functions are considered to be main categories of verbal communication. In the classroom, each of the above categories may be realized separately or in various combinations. In this program, expected verbal performances and linguistic content are specified for each category.

Performance Statements

The performance statements indicate the minimum that students are expected to do in verbal communication in the second language.

Linguistic Content

The linguistic content identifies the minimum language structures, sentence patterns, changes in word forms and vocabulary that students are expected to acquire in order to engage in verbal communication.

The categories of language use, the performance statements and linguistic content for each grade level, are not arranged in a sequential order, although it is recommended that the specified objectives and content be covered by the end of each grade. It is expected that the content specified in the categories of language use, the skills described in the performance statements, and the minimum expectations will have been mastered by the end of Grade 12.

Suggested Vocabulary

The vocabulary is suggested for development of everyday themes and is intended to complement the vocabulary found in primary learning resources. These lists are an additional source for teacher reference and are considered to be elective.

Cultural Themes

The following cultural themes are to be developed as part of the core content in Grades 10, 11 and 12 (specific topics within each theme are elective):

1. conventions
2. role of the family and community

3. role of education in society
4. role of government in society
5. influence of geography, climate and natural resources on the economic and cultural development of the Ukrainian people living in different countries of the world
6. role of the arts and sciences and their impact on world cultures.

Core Components

In summary, the core components consist of:

1. minimum expectations for skill development and cultural understanding

2. the content specified in the categories of language use

3. the skills and concepts identified in the performance statements

4. the major cultural themes

5. the study of cultures of Ukrainian-speaking peoples in the world.

Elective Components

The elective components consist of:

1. the suggested vocabulary

2. the topics specified for each major cultural theme.

These elective components are found in the appropriate curriculum guide.

D. BASIC LEARNING RESOURCES

Ukrainian Grammar. Stechishin, 1977.

Three-year Program

Duravetz, G. *Ukrainian Conversational and Grammatical, Level 1*. Fourth edition. Ukrainian Bookstore, 1987.

ISBN S0056

Ukrainian Conversational and Grammatical, Level 1. Cassettes. ACCESS. [Lessons 1–18]

ISBN S2266

Duravetz, G. *Ukrainian Conversational and Grammatical, Level 2*. Ukrainian Bookstore, 1976.

ISBN S0592

Ukrainian Conversational and Grammatical, Level 2. Cassettes. ACCESS. [Lessons 19–28]

ISBN S2267

Six-year Program

Duravetz, G. *Ukrainian Conversational and Grammatical, Level 2*. Toronto: Ukrainian Bookstore, 1976.

ISBN: S0592

Ukrainian Conversational and Grammatical, Level 2. Cassettes. ACCESS. [Lessons 19–28]

ISBN S2267

510

SOCIAL SCIENCES

CONTENTS

- Social Sciences [general]

- Anthropology
  - Cultural and Physical Anthropology 30

- Economics
  - Economics for Consumers 20
  - Microeconomics 30
  - Macroeconomics 30

- Geography
  - Local and Canadian Geography 20
  - World Geography 30

- History
  - Western Canadian History 20
  - Canadian History 20
  - Western World History 30

- Philosophy
  - Origins of Western Philosophy 20
  - Contemporary Western Philosophy 20
  - Philosophies of Man 30

- Political Science
  - Political Thinking 20
  - Comparative Government 20
  - International Politics 30

- Psychology
  - Personal Psychology 20
  - General Psychology 20
  - Experimental Psychology 30

- Religious Studies
  - Religious Ethics 20
  - Religious Meanings 20
  - World Religions 30

- Sociology
  - General Sociology 20
  - Sociological Institutions 20
  - Applied Sociology 30

SOCIAL SCIENCES

GENERAL INTRODUCTION

RATIONALE

The social sciences 20–30 program is intended to complement the Alberta social studies program by encouraging increased understanding of "man and his world." Courses in this program are distinct from the social studies curriculum in that they focus on the structure, concepts and methodologies of specific social science disciplines. The electives are not intended to provide an alternative to the existing social studies curriculum. Rather, they have been developed to meet diversified student interests, and to add enrichment and in-depth understanding to the scope of the total curriculum.

STRUCTURE

The social sciences 20–30 program is comprised of a series of 3-credit courses. Each course develops several themes appropriate to one of the following disciplines — Anthropology, Economics, Geography, History, Philosophy, Political Science, Psychology, Religious Studies and Sociology. The sequence in which the courses in any particular discipline may be studied is optional.

In structuring the social sciences program a school is free to select those courses that best complement teacher and student interests.

Some faculties will accept two of the 30-level social science options for purposes of university entrance. Counsellors are encouraged to consult university calendars and/or contact pertinent faculties before advising students to include such options in their programs.

OBJECTIVES

The objectives of the social sciences courses are:

1. to develop an insight into the basic concepts of the discipline
2. to develop an insight into specific modes of inquiry and skills unique to a particular discipline
3. to develop an understanding of how knowledge is produced in a particular discipline
4. to provide opportunities to experience the emotive qualities inherent to an interest-motivated approach to the study of a discipline.

ANTHROPOLOGY

CULTURAL AND PHYSICAL ANTHROPOLOGY 30

OBJECTIVES

Anthropology concerns itself with all aspects of human life. As students become more and more concerned with intercultural relationships and understandings, their need for an anthropological perspective increases. *Students* who have studied anthropology at the high school level *should*:

1. demonstrate an understanding of anthropology as the study of the total way of life of human beings
2. demonstrate an understanding of the value of anthropology as a means of improving social and cultural relations
3. demonstrate an understanding of the methods, techniques and tools used by anthropologists.

CONTENT

Theme 1: Introduction to Anthropology

Theme 2: The Examination of Paleolithic-like Lifestyles

Theme 3: The Examination of Mesolithic-like Lifestyles

Theme 4: The Examination of Traditional-state and Empire Societies

Theme 5: Culture Interrelationships and Culture Change

BASIC LEARNING RESOURCES

Cultural and Physical Anthropology 30

Cover, Lois Brauer. *Anthropology for Our Times.* New York, NY: Oxford Book Co., 1971.

ISBN 0871050420

ECONOMICS

OBJECTIVES

Students who have studied economics at the high school level *should*:

1. know that economics is a discipline consisting of a body of knowledge and a method of inquiry
2. understand basic economic concepts and generalizations
3. be able to collect, arrange, process, read and use economic data
4. be able to construct economic models
5. be able to draw conclusions, inferences and generalizations from relevant economic data
6. be able to function well within the economic system.

ECONOMICS FOR CONSUMERS 20

CONTENT

1. Factors that may influence the level of a person's income
2. Factors that may influence the level of a person's expenditures
3. Advantages and disadvantages of credit
4. Influences of inflation as it affects both income and expenditures
5. Conditions that people face when making commitments or expenditures in the consumer or capital goods market

MICROECONOMICS 30

People, Prices and Profits

CONTENT

1. Economics in everyday living
2. How an economic system functions
3. The theory of demand and supply
4. The policies of individual firms
5. The individual and the economy
6. Credit
7. The function of organized labour and collective bargaining
8. Agriculture and economics
9. Pure competition, oligopoly and monopoly
10. Advertising

MACROECONOMICS 30

Markets, Money and Management

CONTENT

1. Introduction to economics
2. Economics as a discipline
3. The functions of an economic system
4. The concepts of specialization and division of labour and the consequences of their application in economics
5. The nature, importance and function of money and banking
6. Inflation and its influences on the economy
7. The use of index numbers in measuring cost of living and other statistical measures
8. GNP and national income as ways of measuring the effectiveness of the economic system
9. The relationship of spending and employment
10. The classical roots of economic principles
11. The economics of government
12. Government controls of business cycles
13. Economics and specialization
14. Income distributions
15. Interdependence in an economy
16. Basic economic theories and systems
17. Economics and developing countries

BASIC LEARNING RESOURCES

Economics for Consumers 20

Daw, Grace and John Beatty. *You, The Consumer*. Toronto, ON: Wiley Publishers, 1975.

ISBN 0471199400

Niss, James F. *Consumer Economics*. Prentice-Hall, 1974.

Trimble, W. *Understanding the Canadian Economy*. Seventh edition. Toronto, ON: Copp Clark, 1983.

ISBN 0773043217

Microeconomics 30

MacDonald, A. H. et al. *The World of Economics*. Second Canadian edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1979.

ISBN 0070828989

Procunier, P. M. and Elbert V. Bowden. *Economics: The Science of Common Sense*. Second Canadian edition. Agincourt, ON: Gage Educational Publishing Company, 1981.

ISBN 0771505507

Trimble, W. *Understanding the Canadian Economy*. Seventh edition. Toronto, ON: Copp Clark, 1983.

ISBN 0773043217

Macroeconomics 30

MacDonald, A. H. et al. *The World of Economics*. Second Canadian edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1979.

ISBN 0070828989

Procunier, P. M. and Elbert V. Bowden. *Economics: The Science of Common Sense*. Second Canadian edition. Agincourt, ON: Gage Educational Publishing Company, 1981.

ISBN 0771505507

Trimble, W. *Understanding the Canadian Economy*. Seventh edition. Toronto, ON: Copp Clark, 1983.

ISBN 0773043217

Wilson et al. *Life on Paradise Island*. Agincourt, ON: Gage Educational Publishing Company, 1970.

ISBN 0673017982

GEOGRAPHY

OBJECTIVES

The objectives of the courses in geography are that *the student should*:

1. acquire an understanding of the following major organizing concepts in geography: areal association, density, human occupance, pattern, region, scale, spatial distribution, spatial interaction

2. acquire facility in the use of the geographer's mode of inquiry and skills such as the following:

   a. the reading and interpretation of aerial photographs, maps, pictures, tables and graphs, and other written source materials
   b. field work processes of observation and recording

3. have the opportunity to develop positive attitudes in relation to the following topics:

   a. interdependence among peoples
   b. respect for similarities and differences among peoples
   c. clarification of values in respect to other value systems
   d. respect for the scientific method of inquiry
   e. knowledge of multiple causation.

CONTENT

Introductory Unit (to be taken as part of both Local and Canadian Geography 20 and World Geography 30, if necessary).

Skills and Concepts in Geography

1. Map reading and atlas skills
   a. atlas
   b. topographical maps
   c. thematic maps
   d. graphs and diagrams
   e. aerial photography

2. Movement of the earth
   a. rotation and revolution
   b. seasons
   c. climate zones

3. Climate
   a. elements of climate
   b. factors influencing climate

4. World geographic systems
   a. winds
   b. ocean currents
   c. climate
   d. land use
   e. population distribution
   f. relationships

LOCAL AND CANADIAN GEOGRAPHY 20

CONTENT

Theme 1: The Change in Settlement Patterns in the Local Area

- a. the neighbourhood and the city
- b. the city in relation to neighbourhood and settlement patterns
- c. relationship of the urban industrial resources to the rural primary resources
- d. the relationship of systems to the city
- e. the settlement patterns of a particular town or city related to the physical features of the site and the social characteristics of the people

Theme 2: Settlement Patterns in Western Canada

- a. the human occupance of Western Canada
- b. human occupance regions of Western Canada
- c. depth studies of regions

Theme 3: Settlement Patterns in Eastern Canada

- a. the human occupance of Eastern Canada
- b. depth studies of regions
- c. studies of the larger regions in Eastern Canada
- d. population (summation)

WORLD GEOGRAPHY 30

CONTENT

Theme 1: World Patterns of Population and Settlement

- a. the human occupance of Canada
- b. the human occupance of the world
- c. case studies in population and settlement
- d. humankind's settlement types and patterns
- e. cities of the world and world urbanization

Theme 2: World Patterns of Humankind's Use of the Earth

- a. human economics
- b. primitive hunting, fishing, collecting
- c. pastoralism or livestock economy
- d. agriculture of the world
- e. world industry and resources
- f. manufacturing
- g. Japan: case study of industrialization
- h. world transportation and commerce

Theme 3: World Patterns of Physical Elements

- a. the lithosphere
- b. landforms
- c. climate: elements, controls, regions
- d. vegetation; soils

BASIC LEARNING RESOURCES

Local and Canadian Geography 20

Tomkins, G. et al. *Canada: A Regional Geography*. Gage, 1970.

Woolforth, John and Roger Leigh. *Urban Prospects*. Toronto, ON: McClelland and Stewart Ltd., 1978.

ISBN 077109048X

World Geography 30

Kendall, Henry M. et al. *Introduction to Geography*. Fifth edition. HBJ-Holt-Saunders, 1976.

ISBN 0155421522

HISTORY

WESTERN CANADIAN HISTORY 20

OBJECTIVES

The objectives of Western Canadian History 20 are:

1. understanding of how the West came to be what it is today: its social, economic, political and religious development
2. knowledge of specific "postholes" that illustrate the basic issues that have defined Western Canadian society in the past and continue to define it today
3. insights into human nature, and how society operates. Francis Bacon said: "histories make men wise"
4. establishment for each student of a personal relationship with his or her own family's past
5. ability to tell succinctly what a book says
6. development of writing ability
7. a genuine appreciation of the contribution made by diverse ethnic and religious groups, and a feeling for what it means to be a citizen in the culturally rich melting pot of Western Canada
8. growth of interest in the practical and aesthetic qualities of the study of history.

CONTENT

1. Overview
2. Indian pioneers
3. Fur trade and exploration
4. Impact of the United States on Western Canada
5. Culture contact
6. Settlement and immigration
7. The Canadian Pacific Railway
8. Responsible government and provincial autonomy
9. Western alienation
10. The social gospel
11. The Depression and western political response
12. The Western Canadian mystique

CANADIAN HISTORY 20

OBJECTIVES

The objectives of Canadian History 20 are:

1. the development of cognitive and social skills that enable the student to deal with historical and contemporary social problems

2. the knowledge of facts, concepts and generalizations pertinent to an understanding of Canadian history.

CONTENT

1. Early foundation to 1815
2. Emergence from colonialism 1815-1849
3. Creation of a nation 1849-1867
4. Nation building 1867-1896
5. A maturing nation 1896-1911
6. A nation in trial
7. The modern nation

WESTERN WORLD HISTORY 30

OBJECTIVES

The objectives of Western World History 30 are that the student will be able:

1. to identify the common characteristics that distinguish each of the following concepts:

    a. fact
    b. inference
    c. hypotheses
    d. frame of reference
    e. analytical questions
    f. relevance
    g. data
    h. inquiry
    i. taxonomy
    j. logical implications

2. to identify and/or provide examples of each of the preceding concepts

3. to apply each of the following principles to unique situations:

    a. historians initiate inquiry by recognizing a problem from data
    b. historians form hypotheses by formulating analytical questions stating hypotheses and remaining aware of the tentative nature of hypotheses
    c. the logical implications of hypotheses are recognized
    d. while data is being gathered, decisions are made on what data will be needed and the relevance of data to the hypotheses
    e. data is analyzed, evaluated and interpreted. Evaluation involves determining the frame of reference of the author of the source and determining the accuracy of statements of fact or inference
    f. the hypothesis is evaluated in light of the data. The hypothesis is modified, if necessary, by rejecting a logical implication unsupported by data, or restating the hypothesis. Generalizations are then stated.

WESTERN WORLD HISTORY 30 (continued)

4. to exhibit the following skills:
    - a. given a set of unique data, classify the data
    - b. given a piece of data, formulate acceptable analytical questions
    - c. from analytical questions, formulate hypotheses
    - d. given hypotheses relative to familiar data, state the logical implications of the hypotheses
    - e. judge the relevance of unique data to unique hypotheses
    - f. identify the frame of reference of the author of a unique piece of data
    - g. using internal and external criteria, determine the validity of facts and inferences
    - h. given data contradictory to the hypothesis, indicate necessary changes in hypotheses.

CONTENT

1. Geographic survey of the Western world
2. The classical heritage
3. The medieval synthesis and the beginnings of national movements
4. Absolutism
5. Science, technology and progress
6. Equality and revolution
7. Nationalism and imperialism

BASIC LEARNING RESOURCES

Western Canadian History 20

Hill, Douglas. *The Opening of the Canadian West: Where Strong Men Gathered.* Don Mills, ON: Academic Press Canada, 1967.

Canadian History 20

There are no basic learning resources for Canadian History 20 at the present time.

Western World History 30

James, L. F. *Origins of Western Civilization: Western Man and The Modern World.* Pergamon Press, 1985.

ISBN S1093

James, L. F. *Rivalry, Reason and Revolution: Western Man and The Modern World.* Pergamon Press, 1981.

ISBN 0080172016

Roselle, Daniel and Anne P. Young. *Our Western Heritage: A Cultural-Analytic History of Europe Since 1500.* Scarborough, ON: Ginn and Co., 1981.

ISBN 0663373778

PHILOSOPHY

ORIGINS OF WESTERN PHILOSOPHY 20

OBJECTIVES

The objectives of Origins of Western Philosophy 20 are:

1. to understand the gradual unfolding of Western philosophical thought
2. to appreciate the new approaches and accomplishments of early Western philosophies
3. to analyze the philosophical concepts, and to be aware of their implications
4. to compare and evaluate various early Western philosophical thoughts and systems
5. to apply the presented concepts, and to use them in developing one's own philosophical thinking.

CONTENT

1.* What philosophy is

2.* The need for philosophy

3. Transition from mythological understanding to philosophical reflection
4. Search for an ultimate element
5. Search for a principle of order and harmony
6. The problem of identity and change
7. Shift of interest from physical speculation toward human life
8. Plato's world of ideas
9. The Aristotelian universe

CONTEMPORARY WESTERN PHILOSOPHY 20

OBJECTIVES

The objectives of Contemporary Western Philosophy 20 are:

1. to identify the basic problems of philosophy
2. to appreciate the importance of reason and critical thinking in philosophical inquiry
3. to analyze major contemporary philosophies to determine their position on basic philosophical questions
4. to appreciate a systematic approach to the major philosophical questions
5. to compare major contemporary Western philosophies.

CONTENT

1.* What philosophy is

2.* The need for philosophy

3. The historical roots of contemporary philosophy
4. Systematic approaches to the traditional problems of philosophy
5. Expressions of a major philosophy
6. Analysis of a major philosophy
7. The value of a philosophy as a basis for an individual's philosophy

PHILOSOPHIES OF MAN 30

OBJECTIVES

The objectives of Philosophies of Man 30 are:

1. to develop the process of critical examination
2. to integrate or orient oneself toward the various phases of human experience
3. to open up the wide range of problems and deal with vital questions of human interest
4. to appreciate the attempts of great philosophers to provide coherent and consistent answers to fundamental questions
5. to think about the basic foundations of one's outlook, knowledge and beliefs
6. to understand that "Man has the ability to examine his life; without that he is nothing."

CONTENT

1.* What philosophy is

2.* The need for philosophy

3. The nature of man
4. How free is man
5. Man and man (political philosophy)

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* These two topics appear as a common introduction to each of the 3-credit courses in philosophy. They may be omitted for students who have already taken one of the philosophy courses.

BASIC LEARNING RESOURCES

Contemporary Western Philosophy 20

Popkin, Richard H. and Avrum Stroll. *Philosophy Made Simple*. Toronto, ON: Doubleday & Co., Inc., 1956.

Origins of Western Philosophy 20

Guthrie, W. K. C. *Greek Philosophers: From Thales to Aristotle*. Agincourt, ON: Methuen, 1967.

Popkin, Richard H. and Avrum Stroll. *Philosophy Made Simple*. Toronto, ON: Doubleday & Co., Inc., 1956.

Sahakian, William S. *History of Philosophy*. Fitzhenry and Whiteside, 1968.

ISBN 0064600025

Philosophies of Man 30

Popkin, Richard H. and Avrum Stroll. *Philosophy Made Simple*. Toronto, ON: Doubleday & Co., Inc., 1956.

POLITICAL SCIENCE

POLITICAL THINKING 20

OBJECTIVES

The objectives of Political Thinking 20 are:

1. to provide an understanding of the process of political decision making
2. to further an understanding of the democratic process
3. to establish an awareness on the part of the student of different political points of view and to create in the student an element of political sophistication
4. to illustrate the relationship that exists in society between freedom, on the one hand, and responsibility on the other
5. to emphasize the above objectives in terms of their relevance to the Canadian political system.

CONTENT

1. Definition of political science
2. Historical forms of governance
3. The exercising of political power
4. Political/economic philosophies

COMPARATIVE GOVERNMENT 20

OBJECTIVES

The objective of Comparative Government 20 is to compare and contrast the Canadian political process to the system(s) adopted in the United Kingdom, the United States of America and/or the Union of Soviet Socialist Republics.

CONTENT

1. Definition of political science
2. The Canadian constitution, its origins and applications
3. The government of the United Kingdom
4. The government of the United States of America
5. The government of the Union of Soviet Socialist Republics

INTERNATIONAL POLITICS 30

OBJECTIVES

The objective of International Politics 30 is to give the student an understanding of the development and importance of international relations. This understanding is brought about by examining such concepts as balance of power, dynastic marriages, territorial rivalry, ideological rivalry, international peace forums and international economic relations.

CONTENT

1. Definition of political science
2. The nature and evolution of power in international relations
3. Historical forms of international relations
4. The effects of technology on international relations
5. International forums for peace
6. International forces in the economy

BASIC LEARNING RESOURCES

Political Thinking 20

Jacobson, G. A. and M. H. Lipman. *Political Science*. Second edition. Fitzhenry, 1979.

ISBN 0064601781

Comparative Government 20

Fenton, Edwin, Anthony N. Penna and Mindella Schultz. *Comparative Political Systems: An Inquiry Approach*. Toronto, ON: Holt, Rinehart and Winston, Inc., 1973.

ISBN 0030800978

Lower, J. Arthur. *Parliaments and Congress: Selected Sources*. Toronto, ON: McClelland and Stewart Ltd., 1971.

ISBN 0771053614

International Politics 30

Jacobson, G. A. and M. H. Lipman. *Political Science*. Second edition. Fitzhenry, 1979.

ISBN 0064601781

Nicholas, H. G. *The United Nations as a Political Institution*. Fifth edition. Toronto, ON: Oxford University Press, 1976.

ISBN 0195198263

PSYCHOLOGY

OBJECTIVES

The objectives of the 3-credit courses in psychology are designed to develop within the student the skills and understandings that make it possible for more effective living in our complex environment. The student's attention will focus on the scientific approach to understanding human behaviour so that he or she may appreciate more fully the reasons that underlie one's own acts and those of one's fellows.

PERSONAL PSYCHOLOGY 20

CONTENT

Theme 1: Introduction to Psychology
- a. definition
- b. the place of psychology among other sciences
- c. what psychology is not
- d. psychology and hypnosis
- e. parapsychology
- f. methods of psychological study

Theme 2: Personality
- a. the development of personality
- b. theories of personality
- c. scientific techniques for measuring personality
- d. projective techniques

Theme 3: Behaviour
- a. development
- b. physical development
- c. motor development
- d. language development
- e. emotional development
- f. social development

Theme 4: Intelligence
- a. the meaning of intelligence
- b. individual tests of intelligence
- c. group tests of intelligence
- d. practical applications of intelligence tests
- e. mental retardation
- f. intellectually gifted children
- g. criticisms of intelligence tests

PERSONAL PSYCHOLOGY 20 (continued)

Theme 5: Heredity and Environment
- a. inherited characteristics
- b. studies of heredity
- c. heredity and maturation
- d. influences of environment before birth
- e. influences of environment after birth
- f. interaction of heredity and environment

Theme 6: Biological Influences on Behaviour
- a. the nervous system
- b. reaction time
- c. the brain
- d. convulsive disorders
- e. glands
- f. emotional behaviour
- g. instincts, or species; specific behaviour
- h. the effect of sleep on behaviour

Theme 7: Understanding Perception
- a. attention
- b. sensation and perception
- c. vision
- d. hearing
- e. other sense fields
- f. sensory deprivation

GENERAL PSYCHOLOGY 20

CONTENT

Theme 1: History of Psychological Schools of Thought
- a. philosophical origins of psychology
- b. beginnings of modern psychology
- c. major approaches to understanding behaviour

Theme 2: Principles of Learning
- a. what is learning?
- b. trial and error learning
- c. classical conditioning
- d. terms related to classical conditioning
- e. operant conditioning
- f. terms related to operant conditioning
- g. operant conditioning and punishment
- h. operant conditioning and programmed learning
- i. learning by insight
- j. controversial areas of learning

Theme 3: How to Learn Efficiently
- a. transfer
- b. other factors in learning efficiently
- c. the progress of learning
- d. remembering
- e. forgetting

Theme 4: The Process of Thinking
- a. basic elements of thinking
- b. concepts
- c. uncritical thinking
- d. creative thinking
- e. imagining
- f. reasoning
- g. computer versus human thinking
- h. applying principles of learning to taking examinations

Theme 5: Facing Frustration and Conflict
- a. frustration and conflict
- b. types of conflict
- c. desirable ways of responding to frustration and conflict
- d. adjustment mechanisms
- e. cognitive dissonance

GENERAL PSYCHOLOGY 20 (continued)

Theme 6: Emotional Problems of Adolescents
- a. inferiority
- b. daydreaming
- c. thrills and thrill-seeking
- d. family conflicts
- e. dating and romantic love
- f. assuming the roles of men and women

Theme 7: Behaviour Disorders and Their Treatment
- a. behaviour disorders in our society
- b. neurotic behaviour
- c. psychosis
- d. functional psychosis
- e. organic psychosis
- f. personality disorders
- g. the treatment of behaviour disorders

Theme 8: Career Opportunities in Psychology
- a. educational psychology
- b. clinical psychology
- c. physiological psychology
- d. industrial psychology
- e. social psychology

EXPERIMENTAL PSYCHOLOGY 30

CONTENT

Theme 1: Experimental Psychology
- a. psychology as an experimental science
- b. psychological research

Theme 2: Statistics
- a. organizing data
- b. normal distribution
- c. percentiles, deciles, quartiles
- d. measures of central tendency
- e. measures of variability
- f. correlation
- g. validity and reliability

Theme 3: Research Methods
- a. research steps
- b. laboratory experimentation

Theme 4: Research Projects
- a. research; implementation of practical applications
- b. project flexibility
- c. evaluation
- d. suggested design

BASIC LEARNING RESOURCES

Personal Psychology 20

Engle, T. L. and Louis Snellgrove. *Psychology: Its Principles and Applications*. Eighth edition. HBJ-Holt-Saunders, 1984.

ISBN 0153748206

General Psychology 20

Engle, T. L. and Louis Snellgrove. *Psychology: Its Principles and Applications*. Eighth edition. HBJ-Holt-Saunders, 1984.

ISBN 0153748206

Experimental Psychology 30

Engle, T. L. and Louis Snellgrove. *Psychology: Its Principles and Applications*. Eighth edition. HBJ-Holt-Saunders, 1984.

ISBN 0153748206

RELIGIOUS STUDIES

OBJECTIVES

The objectives of the courses in religious studies are to provide an opportunity to experience a number of cultural, historical and contemporary issues from a religious point of view, and through the study of religion as a separate discipline to "develop a philosophy based upon values conducive to ethical and moral behaviour and reflected in an understanding of human worth." (Government of Alberta, *Report of the Commission on Educational Planning.*)

RELIGIOUS ETHICS 20

CONTENT

1. Concept of ethics
2. Meaning of religious ethics
3. Ways in which the adolescent attains self-realization
4. How the adolescent works out his or her identity in society
5. How certain specific contemporary issues affect the adolescent

565

RELIGIOUS MEANINGS 20

CONTENT

1. Humankind has basic needs
2. The need to search for meaning in life
3. Ways in which humankind searches for meaning in life
4. Faith adds a dimension to humankind's quest for meaning
5. Deity is an ultimate concern in whom many have faith
6. Because faith is a growth process, crisis will be encountered
7. Humankind tends to depend upon others in their growth in faith
8. Faith must manifest itself through action

WORLD RELIGIONS 30

CONTENT

1. Meaning of religion
2. Development of religion
3. Faith is the core element of religion
4. Major religions of the world
5. Basic beliefs and practices of the major religions of the world

BASIC LEARNING RESOURCES

Religious Ethics 20

There are no basic learning resources for Religious Ethics 20 at the present time.

Religious Meanings 20

Frankl, Victor E. *Man's Search for Meaning.* Revised and updated. New York, NY: Washington Square Press, 1984.

ISBN 0671834657

World Religions 30

Evans, Allan S. et al. *What People Believe: A Study of the World's Great Faiths.* Volume One. Toronto, ON: McGraw-Hill Ryerson Limited, 1983.

ISBN 0075486679

Evans, Allan S. et al. *What People Believe: A Study of the World's Great Faiths.* Volume Two. Toronto, ON: McGraw-Hill Ryerson Limited, 1983.

ISBN 0075486687

SOCIOLOGY

OBJECTIVES

The objectives of the courses in sociology are designed to develop within the student a better understanding of group behaviour. This understanding should be based on fact rather than opinion. The sociological perspective focuses on "what is" rather than "what ought to be." Students should be able to analyze occurrences around them objectively. They should feel themselves to be a part of society, understand its influence on their lives, and visualize their roles in societal change.

GENERAL SOCIOLOGY 20

CONTENT

Theme 1:* The Discipline of Sociology
  a. sociology as a field of study
  b. scientific methods of study

Theme 2: Culture
  a. culture
  b. cultural values, norms and sanctions
  c. deviations from cultural norms
  d. culture and personality

Theme 3: Society and Social Class
  a. organization of society
  b. social stratification
  c. social class
  d. changes in status; social mobility

SOCIOLOGICAL INSTITUTIONS 20

CONTENT

Theme 1:* The Discipline of Sociology
- a. sociology as a field of study
- b. scientific methods of study

Theme 2: Institutions
- a. social institutions
- b. the family
- c. the institution of religion
- d. sociology of education

Theme 3: Minorities
- a. minority groups
- b. race and ethnic relations

Theme 4: Influencing Behaviour
- a. social behaviour
- b. public opinion, mass communication and propaganda
- c. social control and deviation

Theme 5: Role and Status
- a. role and status

APPLIED SOCIOLOGY 30

CONTENT

Theme 1:* The Discipline of Sociology
- a. sociology as a field of study
- b. scientific methods of study

Theme 2: Sociology Applied
- a. applied sociology
- b. crime and delinquency
- c. youth rebellion
- d. sociological phenomena

Theme 3: Sociology and the Individual
- a. applied sociology and the individual
- b. determining your goals
- c. your educational analysis
- d. mate choice and marriage

Theme 4: Changes in Culture
- a. social and cultural change
- b. social movements

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* Since each 3-credit course is to be independent and non-sequential, the first theme is repeated. A student need not take it more than once.

BASIC LEARNING RESOURCES

General Sociology 20

Horton, Paul B. and Chester L. Hunt. *Sociology*. Sixth edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1984.

ISBN 0070304432

Thomas, W. LaVerne. *Sociology: The Study of Human Relationships*. Fourth edition. Orlando, FL: Harcourt Brace Jovanovich, 1990.

ISBN 015371123X

Sociological Institutions 20

Horton, Paul B. and Chester L. Hunt. *Sociology*. Sixth edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1984.

ISBN 0070304432

Thomas, W. LaVerne. *Sociology: The Study of Human Relationships*. Fourth edition. Orlando, FL: Harcourt Brace Jovanovich, 1990.

ISBN 015371123X

Applied Sociology 30

Horton, Paul B. and Chester L. Hunt. *Sociology*. Sixth edition. Scarborough, ON: McGraw-Hill Ryerson Limited, 1984.

ISBN 0070304432

Thomas, W. LaVerne. *Sociology: The Study of Human Relationships*. Fourth edition. Orlando, FL: Harcourt Brace Jovanovich, 1990.

SOCIAL STUDIES

CONTENTS

Social Studies 10-20-30

Social Studies 13-23-33

SOCIAL STUDIES
10-20-30

A. PROGRAM RATIONALE AND PHILOSOPHY

Social studies is a school subject that assists students to acquire basic knowledge, skills and positive attitudes needed to be responsible citizens and contributing members of society. The content of social studies draws upon history, geography, economics, other social sciences, the behavioural sciences and the humanities. The content serves as the context in which important skills and attitudes are developed.

Central to all curricula are the students. The Alberta Social Studies Program takes the following factors into account:

> **The Nature and Needs of the Learner:** The expected learnings are consistent with the social and intellectual maturity of the students.
>
> **The Nature and Needs of a Changing Society:** The program prepares students for active and responsible participation in a changing world. It seeks to equip students with the knowledge and skills necessary to function in the society in which they must ultimately find their place.
>
> **The Nature of Knowledge in Each Subject Area:** The program content reflects the vast scope of the disciplines of history, geography, economics and social sciences at a level consistent with the maturity of the students.
>
> **The Learning Environment:** The program identifies what is to be taught and provides the flexibility for teachers to adapt the program to meet the needs of the learners. It addresses the needs and conditions in schools and the availability, accessibility and variety of learning resources within the school and community.

In our changing society, students will need to be practised at using a variety of skills and strategies. Students will need to be able to acquire knowledge, to interpret and communicate information, and to solve problems and make decisions. In doing all of this, students require a wide range of critical and creative thinking skills and strategies that they can apply to a variety of situations. Therefore, the concept of learners as receivers of information should be replaced with a view of learners as self-motivated, self-directed problem solvers and decision makers who are developing the skills necessary for learning and who develop a sense of self-worth and confidence in their ability to participate in a changing society.

In order to accommodate students with a wide range of abilities, needs, interests and aspirations, two sequences for the Senior High School Social Studies Program have been developed. Social Studies 10–20–30 is designed for those students who are seeking an Advanced High School Diploma and who will likely pursue post-secondary studies. Social Studies 13–23–33 will be of interest to those students who are pursuing a General High School Diploma, many of whom will probably go directly into the work force. Although the content, skills and attitudes are similar for both sequences, the expectations for Social Studies 10-20-30 are more challenging, particularly in the depth of concept development, the level of critical and creative thinking, and inquiry skill development. The nature of the student learning resources that are approved for each sequence differ.

B. GENERAL LEARNER EXPECTATIONS

RESPONSIBLE CITIZENSHIP

Responsible citizenship is the ultimate goal of social studies. Basic to this goal is the development of critical thinking. The "responsible citizen" is one who is knowledgeable, purposeful and makes responsible choices. Responsible citizenship includes:

- understanding the role, rights and responsibilities of a citizen in a democratic society and a citizen in the global community
- participating constructively in the democratic process by making rational decisions
- respecting the dignity and worth of self and others.

Citizenship education is based on an understanding of history, geography, economics, other social sciences and the humanities as they affect the Canadian community and the world. However, knowledge is changing rapidly. These changes bring into focus the need to provide the knowledge and skills necessary to meet the challenges of, and keep pace with, an ever-changing world. Therefore, emphasis is placed on learning those social studies facts, concepts, generalizations and skills that are useful for lifelong learning and responsible citizenship.

Social studies is organized around knowledge, skill and attitude objectives. These objectives should not be addressed separately or sequentially. The achievement of any one objective is directly related to the achievement of another; hence, they should be pursued simultaneously. The responsible citizen uses the knowledge, attitudes and skills acquired from the school, the family and the community.

In order to understand why people act the way they do, one has to examine the underlying reasons for their actions, including their values. Development of understanding of values (identification, definitions, descriptions) is incorporated in the knowledge objectives, and development of competencies (value analysis, decision making) is incorporated in the skill objectives.

KNOWLEDGE OBJECTIVES

To be a responsible citizen, one needs to be well-informed about the past as well as the present, and to be prepared for the future by drawing from history and the social sciences disciplines. The knowledge objectives take into account the history of our community, the nature of a democratic society, an understanding of the nature of man, and an understanding of our changing social, political, technological and economic environments.

Knowledge objectives for social studies topics are organized through generalizations and key understandings, concepts and related facts. A generalization is a rule or principle that shows relationships among two or more concepts. A key understanding is a statement of a major understanding related to the content of the unit. A concept is an idea or meaning represented by a word, term or other symbol that stands for a class or group of things. Facts are parts of information that apply to specific situations; for example, specific statements about people, things, events or ideas.

SKILL OBJECTIVES

Skills are taught best in the context of use rather than in isolation. While skill objectives are grouped into categories for organizational purposes, some of the skills may fit into more than one category. There is a wide variety of thinking skills essential to social studies. These skills are not intended to be developed separately or sequentially and are intertwined with the knowledge and attitude components. Skill objectives for social studies are grouped into the following categories:

Process Skills	– skills that help one acquire, evaluate and use information and ideas
Communication Skills	– skills that help one express and present information and ideas
Participation Skills	– skills that help one interact with others

Inquiry Strategies

Inquiry strategies help one answer questions, solve problems and make decisions using process, communication and participation skills. Thinking skills are developed by providing students with many experiences using strategies such as problem solving and decision making. The intent is to provide many opportunities within a topic/grade to use problem solving and/or decision making so that the students learn the strategies and then are able to transfer the skills to their own lives. Each topic includes questions that range from those that have an answer based on the available evidence, to those that are issues that need to be resolved. A problem may be defined as any situation for which a solution is desired. An issue may be defined as a matter of interest about which there is significant disagreement. The disagreement can involve matters of fact, meaning or values.

Each topic includes a section Issues and Questions for Inquiry. These sections are not intended to be exclusive. The success of inquiry is enhanced by selecting questions and issues related to the topic that are concrete, relevant, meaningful and of interest to students. Issues and questions can be teacher- or student-generated.

Issues and questions may be investigated using different strategies. Critical thinking and creative thinking may be encouraged by using a variety of inquiry strategies such as the problem-solving, decision-making and inquiry process models outlined below. Inquiry calls for choosing and blending strategies. Sometimes, a step-by-step approach may be best. At other times, a more flexible approach may be used. The following strategies can be expanded, modified or combined to suit specific topics, disciplinary emphases, resources and student maturity. Problem solving is a strategy of using a variety of skills to answer a question or solve a problem (who, why, what, where, when, how). Decision making is a strategy that uses values and a variety of skills to determine a solution to a problem/issue that involves a choice (should, how should, to what extent should) and that requires a decision for action. Large issues requiring a policy decision may be addressed through an inquiry strategy similar to the 1981 inquiry process model. (The strategies provided in curriculum documents vary from elementary through secondary levels.)

A Model for Answering Questions or Solving Problems

- Define a question/problem
- Develop questions or hypotheses to guide research
- Gather, organize and interpret information
- Develop a conclusion/ solution

A Model for Making Decisions

- Identify an issue
- Identify possible alternatives
- Devise a plan for research
- Gather, organize and interpret information
- Evaluate the alternatives using collected information
- Make a decision; plan or take action consistent with the decision (if desirable and feasible)
- Evaluate the action plan and decision-making process

A Model for the Inquiry Process (1981)

- Identify and focus on the issue
- Establish research questions and procedures
- Gather and organize data
- Analyze and evaluate data
- Synthesize data
- Resolve the issue
- Apply the decision (or postpone taking action)
- Evaluate the decision, the process, and (where pertinent) the action

ATTITUDE OBJECTIVES

The attitude objectives describe a way of thinking, feeling or acting and are developed through a variety of learning experiences that encompass knowledge and skill objectives. These experiences include participation in specific activities, the development of positive attitudes toward one another, and learning in an atmosphere of free and open inquiry. Attitude objectives should receive continuous and informal evaluation.

The development of the positive attitudes needed for responsible citizenship is a gradual and ongoing process. The attitude objectives for social studies, which students should develop, include:

- positive attitudes about learning
- positive and realistic attitudes about one's self
- attitudes of respect, tolerance and understanding toward individuals, groups and cultures in one's community and in other communities (local, regional, national, global)
- positive attitudes about democracy, including an appreciation of the rights, privileges and responsibilities of citizenship
- an attitude of responsibility toward the environment and community (local, regional, national, global).

C. SPECIFIC LEARNER EXPECTATIONS

The **specific** learner expectations in Social Studies 10, 20 and 30 are organized into knowledge, skill and attitude objectives. These objectives will be integrated into appropriate classroom experiences (exercises and activities) for learners. The **required** component comprises 80% of the program and is represented by topics and statements of objectives that follow. The required component contains the knowledge, skills and attitudes that all students should be expected to acquire. The **elective** component should occupy 20% of the program. The elective component provides enrichment and remediation consistent with the content and objectives of the required component and provides opportunities to adapt or enhance instruction to meet the diverse needs and abilities of students.

The study of **current affairs** adds considerably to the relevance, interest and immediacy of the Alberta Social Studies Program. It is expected that current affairs will be handled as inclusions and extensions of curricular objectives, not as a separate topic isolated from the program. This does not preclude examination of events or issues of significant local, national or international importance, provided a balanced approach that encourages the goals of responsible citizenship is employed and the prescribed objectives of the course are met.

Evaluation, within the Alberta Social Studies Curriculum, is the process of collecting, processing, interpreting and judging program objectives, teaching strategies, student achievement and instructional resources. Evaluation is important during all phases of planning and learning. It should begin with an assessment of student needs, and include consideration of ways that basic resources and support materials can be used to improve learning. Ongoing evaluation determines how well students are achieving prescribed objectives and permits the planning of specific learning experiences. Evaluation should assess the degree of overall success in meeting learning expectations in the program including knowledge, skill and attitude objectives. Knowledge and skill objectives should have equal weight in the evaluation used to calculate grades. Assessment of attitude objectives should not be used in calculating grades. Further information on evaluation is provided in the *Social Studies 10-20-30 Teacher Resou Manual*, 1990.

SOCIAL STUDIES 10

CANADA IN THE MODERN WORLD
Topic A: Canada in the Twentieth Century

DESCRIPTION

Students will acquire an understanding of forces and events that have influenced the development of Canada and are shaping the lives of Canadians today. This study will focus on the achievement and maintenance of Canada's sovereignty, the effects of regionalism and the development of a national identity.

CRITICAL AND CREATIVE THINKING GOALS

In order to encourage critical and creative thinking, students should acquire the knowledge and skills necessary to:

a. assess the action required to maintain Canadian sovereignty in an interdependent world
b. interpret the long-term effects of regionalism on Canada
c. assess the importance of Canada developing a strong national identity.

It must be recognized that the degree to which students will be able to address the goals listed above will vary. Students should engage in activities such as role playing, simulations, debates, presentations or research assignments that give them an opportunity to participate, and to develop critical and creative thinking. These goals can be used in conjunction with selected issues and questions for inquiry.

ISSUES AND QUESTIONS FOR INQUIRY

In this topic, at least one issue and one question must be addressed using appropriate inquiry strategies (see page 4). Students are encouraged to address several issues and questions for inquiry. Teachers are encouraged to adapt these, and to develop other questions and issues for inquiry.

Issues

a. Should Canada maintain her sovereignty at all costs?
b. Should Canada continue to be a part of various alliances, or do they compromise her sovereignty?
c. Should Canadians pursue a strong national identity at all costs?

Questions

d. What is the Canadian identity?
e. How are bilingualism and multiculturalism strengthening Canada?
f. To what extent does the regional nature of Canada affect Canadian sovereignty?

SPECIFIC LEARNER OBJECTIVES

In order to provide a clear statement of what students are expected to learn about this topic, the content has been organized into knowledge, skill and attitude objectives. However, for instructional purposes, the knowledge, skill and attitude objectives are to be incorporated into an organizational model for teaching the topic. Sample instructional models are provided in the Social Studies 10–20–30 Teacher Resource Manual, 1990. *Flexibility in selecting and designing an instructional organization for the unit is intended to accommodate the needs of students, maximize the use of available resources, and allow for coordination of instructional planning. Consequently, the knowledge, skill and attitude objectives should be integrated for instructional purposes, not taught in an isolated fashion. It is intended that each topic should receive equal emphasis in the course. Equal weighting should be given to knowledge and skill objectives in each topic. Attitude objectives should be addressed throughout the topic. Assessment of attitude objectives should not be used in calculating grades.*

Knowledge Objectives

The generalizations and key understandings, concepts and related facts and content listed in this topic are presented as an outline of the required content and help to organize the knowledge objectives. **The generalizations and key understandings are the most important knowledge objectives.** The concepts and related facts and content should be developed and used to facilitate an understanding of the Generalizations and Key Understandings.

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: SOVEREIGNTY		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **geographic factors influence a nation's sovereignty**	sovereignty	Briefly review Canada's geographic location in the world: • boundaries • trade and transport links to the world
b. **the achievement of sovereignty has been a developmental process shaped by internal and external forces**	independence nationhood nation-state national identity	Examine historical and current involvements that contribute to Canadian independence: • Canada's role in World War I – aims and contributions – consequences

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: SOVEREIGNTY (continued)		• attaining independence – *Treaty of Versailles* – League of Nations – *Statute of Westminster, 1931* – Newfoundland, 1949 – the *Constitution Act*, 1982
c. **there are benefits and costs attached to independence**	intervention international relations middle power	Briefly examine Canada's efforts to maintain security: • Canada's role in World War II – contributions • Canada's role in the Cold War • current defence policy
d. **a nation's foreign policy must be balanced between its interests and the interests of other nations**	foreign policy	Briefly examine Canada's foreign policy: • Department of External Affairs • aims and objectives of Canada's foreign policy
e. **the consequences of foreign policy can result in conflict or cooperation with other nations**	global community alliances conflict cooperation	Briefly examine Canada's involvement in the global community with attention to: • Canada and the United Nations: – examples of Canadian involvement in selected UN agencies – peacekeeping activities; e.g., Suez crisis – military actions; e.g., Korea • Canada/USA relations: – defence agreements; e.g., NORAD – boundary disputes (choose one example — Arctic, Northwest Passage, Fisheries) – trade (choose one example — Auto Pact, free trade, Investment Canada)

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: SOVEREIGNTY (continued)		– environment (choose one example — acid rain, water pollution) • Canada and the Pacific Rim: – location – markets/trade – current initiatives – future importance • Canada and Europe: – joint defence; e.g., NATO – trade and the European Community • Canada and other international organizations; e.g.; – Commonwealth – La Francophonie – OAS • Canada and the developing world: – CIDA and selected examples of non-governmental organizations • Canada and global concerns (select several examples for discussion): – GATT – trade – immigration policy – environment – aid
THEME II: REGIONALISM		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **Canada is composed of geographic regions with diverse political, economic and cultural interests**	regional diversity pluralism	Examine regions of Canada by outlining the: • political, economic and cultural composition of Canada

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME II: REGIONALISM (continued)		
b. **Canada's political, economic and social fabric is influenced by geographic factors**	regional disparity	Identify the factors that lead to the power and influence of various regions
c. **regional differences both strengthen and challenge Canadian unity**	national unity regional identity separatism alienation	Select at least two examples of regional interests from the following: • third parties • Quebec separatism • Quiet Revolution • demands for special status • western alienation • National Energy Policy • northern development • Atlantic fisheries • West Coast and Pacific Rim
d. **regional differences are accommodated in various ways**	federalism equalization	Examine Canada's constitutional structure and federal/provincial relations: • the *Constitution Act*, 1982 • First Ministers' Conferences • equalization policies • negotiated agreements between federal–provincial levels of governments; e.g., Meech Lake Accord
THEME III: IDENTITY		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **Canadians identify with community, region and nation**	Canadian identity	Examine how others perceive Canadians: • reputation on the world scene – honouring commitments; e.g., involvement in UN peacekeeping duties

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME III: IDENTITY (continued)		

b. **the Canadian identity is shaped by our values, attitudes and cultures as they have emerged from our history and geography**	nationalism	Examine the perception we have of ourselves:
		• symbols of nationalism
		• forces of nationalism (positive and negative)
		• self-concept
		  – culture
		  – sports
		• values; e.g., pluralism
		  – attitudes (respect for others, respect for ourselves)

c. **bilingualism and multiculturalism are fundamental to the Canadian identity**	bilingualism multiculturalism	Briefly review why Canada is a bilingual and multicultural country by referring to our historical background in order to understand our official policies: • first peoples • two founding peoples • other cultural groups • bilingual policies • multicultural policies
d. **interaction among groups influences one's identity**	cultural identity	Examine examples of interaction with others in order to understand how they shape one's cultural identity: • legitimacy of self • majority–minority status • assimilation, cultural maintenance, cultural promotion

Skill Objectives

Skills have been organized into process, communication and participation categories, with inquiry strategies included to emphasize the fact that skills are interrelated and often developed together. This section contains a list of skills to be addressed in this topic; however, these skills may be interchanged with those listed in Topic B or addressed in both topics at this grade level. Skills are interrelated and should be integrated with the knowledge and attitude objectives in the instructional process.

Process Skills

Process skills help one acquire, evaluate and use information and ideas. These skills include gathering, organizing, interpreting, analyzing, synthesizing and evaluating.

Students will be expected to develop the ability to:

a. **acquire information using print, audio-visual and library resources**
b. **record and organize information in note form**
c. **analyze and evaluate information, including detecting bias and distinguishing fact from opinion**
d. **interpret and summarize materials.**

Communication Skills

Communication skills help one express and present information and ideas. These skills include oral, visual and written expression.

Students will be expected to develop the ability to:

a. **present ideas through visual materials**
b. **debate issues effectively**
c. **express and defend ideas in written form**
d. **report on research results.**

Participation Skills

Participation skills enable one to interact with others. These skills include working effectively, individually and cooperatively, in group situations.

Students will be expected to develop the ability to:

a. **work at individual tasks in a group situation**
b. **work together in proposing and discussing alternative solutions to issues**
c. **cooperate in decision making.**

Inquiry Strategies

Inquiry strategies are combinations of skills that help one answer questions, solve problems and make decisions using process, communication and participation skills.

Students will be expected to develop the ability to:

a. **apply critical and creative thinking skills in problem solving and decision making**
b. **develop the ability to propose and discuss alternative solutions to issues**
c. **develop the skills necessary for composing an argumentative essay**
d. **use appropriate inquiry models to answer questions, solve problems and resolve issues.**

Attitude Objectives

The nature of social studies requires the examination of values and the encouragement of positive attitudes among students. While attention should be given to developing as many desirable personal characteristics and attitudes in students as possible, some attitudes need to be identified for particular emphasis in each topic. Students should participate in activities that help develop positive attitudes toward one another. Learning should take place in an atmosphere of free and open inquiry.

Students will be expected to develop:

a. **respect for and an appreciation of the uniqueness of Canada**
b. **an appreciation of our evolving Canadian heritage**
c. **openness to new ideas and opinions about the nature of Canadian society**
d. **respect for the right of all Canadian citizens to express alternative points of view**
e. **sensitivity to what being Canadian means to different people in different regions of Canada**
f. **preference for peaceful resolution of conflict in personal relations and in society as a whole**
g. **respect for the many cultural groups in Canada**
h. **continuing interest in national, political, social and cultural affairs in Canada**
i. **an appreciation of Canada's role as a nation in an interdependent world.**

CANADA IN THE MODERN WORLD
Topic B: Citizenship in Canada

DESCRIPTION

Responsible citizenship requires an understanding of the structure and function of government as well as willingness to exercise the rights and duties of citizenship in a changing Canadian society. Citizenship in a democratic country like Canada is based upon the assumption that people will be actively involved in decisions affecting the community and in protecting and respecting basic human rights.

CRITICAL AND CREATIVE THINKING GOALS

In order to encourage critical and creative thinking, students should acquire the knowledge and skills necessary to:

a. examine the process whereby decisions affecting themselves and society are made
b. design and evaluate alternative methods of providing for the protection of human rights in society
c. examine how questions that involve the needs of the individual and the needs of the state are resolved.

It must be recognized that the degree to which students will be able to address the goals listed above will vary. Students should engage in activities such as role playing, simulations, debates, presentations or research assignments that give them an opportunity to participate, and to develop critical and creative thinking. These goals can be used in conjunction with selected issues and questions for inquiry.

ISSUES AND QUESTIONS FOR INQUIRY

In this topic, at least one issue and one question must be addressed using appropriate inquiry strategies (see page 4). Students are encouraged to address several issues and questions for inquiry. Teachers are encouraged to adapt these, and to develop other questions and issues for inquiry.

Issues

a. Should elected representatives represent the views of their constituents or themselves?
b. Should an individual be required to participate in political decision making?
c. Should Canada pursue a leadership role in working for the protection of human rights?

Questions

d. How can citizens influence decision making by governments in Canada?
e. What responsibilities does the individual have in Canadian society?
f. How are human rights protected in Canada?

SPECIFIC LEARNER OBJECTIVES

In order to provide a clear statement of what students are expected to learn about this topic, the content has been organized into knowledge, skill and attitude objectives. However, for instructional purposes, the knowledge, skill and attitude objectives are to be incorporated into an organizational model for teaching the topic. Sample instructional models are provided in the Social Studies 10-20-30 Teacher Resource Manual, 1990. *Flexibility in selecting and designing an instructional organization for the unit is intended to accommodate the needs of students, maximize the use of available resources, and allow for coordination of instructional planning. Consequently, the knowledge, skill and attitude objectives should be integrated for instructional purposes, not taught in an isolated fashion. It is intended that each topic should receive equal emphasis in the course. Equal weighting should be given to knowledge and skill objectives in each topic. Attitude objectives should be addressed throughout the topic. Assessment of attitude objectives should not be used in calculating grades.*

Knowledge Objectives

The generalizations and key understandings, concepts and related facts and content listed in this topic are presented as an outline of the required content and help to organize the knowledge objectives. **The generalizations and key understandings are the most important knowledge objectives.** The concepts and related facts and content should be developed and used to facilitate an understanding of the Generalizations and Key Understandings.

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: POLITICS AND GOVERNMENT		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **politics are a feature of everyday life**	decision making organization	Identify examples of consensus, influence, negotiation and compromise at school, community, provincial and national levels (laws, services, etc.)

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: POLITICS AND GOVERNMENT (continued)		
b. **the structure and functions of government in Canada are important**	democracy federalism constitution representative democracy responsible government division of powers	Examine parliamentary democracy in Canada including the following: • levels of government – federal – provincial – municipal • constitution – *B.N.A. Act, 1867* – unwritten constitution – the *Constitution Act*, 1982 – party system – elections – constituency – majority and minority rights – role of the civil service • functions of government – executive function – legislative function – judicial function • role of the – Monarch – Governor General – Prime Minister – Cabinet – Senate – House of Commons – Lieutenant-Governor – Premier – Legislative Assembly – Supreme Court
c. **the political processes are influenced by a variety of groups in the community**	mass media	Examine how television and other media are used to create images, communicate demands, disseminate policies and ideas
	interest groups	Select examples of how interest groups lobby for change; e.g.: • farm groups • consumer groups • environmental groups

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME II: CITIZEN PARTICIPATION		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **the degree of citizen participation and the exercise of an individual's political power and responsibilities are influenced by a variety of factors**	power	Select an example from each factor for discussion: • demographic factors – population distribution and location – urban – rural • socioeconomic factors – income by region – education – occupation – wealth • cultural factors – historical – linguistic – ethnic groups – gender • geographical factors – location – resources
b. **the citizen has a role in the political process**	participation	Briefly examine citizens' participation in the political process: • voting • campaigning • joining parties • petitioning • lobbying • demonstrating • letter writing
c. **political differences are resolved through a variety of approaches**	democratic process majority and minority rights negotiation and compromise	Identify ways of resolving differences: • legal actions • federal/provincial conferences • royal commissions • arbitration • elections • plebiscite • referendum

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME III: RIGHTS AND RESPONSIBILITIES		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **rights and responsibilities are associated with citizenship**	rights freedoms justice equality	Examine rights (individual and collective) in Canadian society: • human • civil • legal • minority • economic • cultural • language • political
	responsibilities	Examine responsibilities in Canadian society: • political – franchise • legal – jury duty • moral – respect for the rights of others • social – participating in community activities; e.g., volunteering
b. **there are basic human rights that need to be protected**	human rights discrimination prejudice	Develop an understanding of human rights and the need to protect them by briefly examining the following: • *Universal Declaration of Human Rights* • organizations dedicated to the protection of human rights; e.g., Amnesty International, Red Cross • examples of situations where human rights were not protected; e.g., Natives, Japanese internment, women, children, Holocaust

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME III: RIGHTS AND RESPONSIBILITIES (continued)		
c. **there are various means that help to protect and preserve rights in Canada**	entrenchment of rights safeguarding rights	Explain how the following help to protect human rights: • *Canadian Charter of Rights and Freedoms, 1982* • Aboriginal Rights • *Official Languages Act* • *Individual's Rights Protection Act* • human rights commissions • ombudsmen • courts • media

Skill Objectives

Skills have been organized into process, communication and participation categories, with inquiry strategies included to emphasize the fact that skills are interrelated and often developed together. This section contains a list of skills to be addressed in this topic; however, these skills may be interchanged with those listed in Topic A or addressed in both topics at this grade level. Skills are interrelated and should be integrated with the knowledge and attitude objectives in the instructional process.

Process Skills

Process skills help one acquire, evaluate and use information and ideas. These skills include gathering, organizing, interpreting, analyzing, synthesizing and evaluating.

Students will be expected to develop the ability to:

a. **identify and use relevant information from print and non-print sources**
b. **distinguish between fact and opinion**
c. **analyze a variety of alternative positions on a problem or an issue**
d. **recognize underlying assumptions on an issue.**

Communication Skills

Communication skills help one express and present information and ideas. These skills include oral, visual and written expression.

Students will be expected to develop the ability to:

a. **express themselves effectively in an oral presentation**
b. **present ideas effectively in class discussion**
c. **convey information and express ideas using a visual format**
d. **defend a position in a short written assignment.**

Participation Skills

Participation skills enable one to interact with others. These skills include working effectively, individually and cooperatively, in group situations.

Students will be expected to develop the ability to:

a. **interact effectively with others in a variety of group settings**
b. **participate in group decision making**
c. **choose appropriate strategies for bringing about change in society.**

Inquiry Strategies

Inquiry strategies are combinations of skills that help one answer questions, solve problems and make decisions using process, communication and participation skills.

Students will be expected to develop the ability to:

a. **develop further the creative and critical thinking skills necessary for responsible citizenship**
b. **develop the ability to consider alternatives, make decisions and substantiate their choices**
c. **examine the processes whereby decisions affecting themselves and society are made**
d. **propose and evaluate alternative decision-making models**
e. **use appropriate inquiry models to answer questions, solve problems and resolve issues.**

Attitude Objectives

The nature of social studies requires the examination of values and the encouragement of positive attitudes among students. While attention should be given to developing as many desirable personal characteristics and attitudes in students as possible, some attitudes need to be identified for particular emphasis in each topic. Students should participate in activities that help develop positive attitudes toward one another. Learning should take place in an atmosphere of free and open inquiry.

Students will be expected to develop:

a. **an appreciation of the rights and responsibilities inherent in the democratic way of life**
b. **a willingness to accept responsibility for the consequences of one's actions**
c. **an appreciation of and a respect for the rights of others**
d. **and value peaceful resolution of conflict**
e. **a respect for the rights of others to hold opinions different from one's own**
f. **an appreciation of the fact that citizenship involves participation in the community and the nation.**

SOCIAL STUDIES 20

THE GROWTH OF THE GLOBAL PERSPECTIVE
Topic A: Development and Interaction of Nations: Nineteenth Century Europe

DESCRIPTION

The modern world has been influenced by major ideas and forces that have emerged from the nineteenth century European experience. Students will examine nationalism, industrialization, imperialism and international rivalries and their effect on the development and interaction of nations.

CRITICAL AND CREATIVE THINKING GOALS

In order to encourage critical and creative thinking, students should acquire the knowledge and skills necessary to:

a. identify underlying values that helped shape ideas and influence events in the European experience
b. analyze why certain ideologies developed in the nineteenth century
c. assess the influence of selected events and ideas of the nineteenth century on the twentieth century
d. compare and contrast examples of nationalism from the nineteenth century with the nature and role of nationalism today.

It must be recognized that the degree to which students will be able to address the goals listed above will vary. Students should engage in activities such as role playing, simulations, debates, presentations or research assignments that give them an opportunity to participate, and to develop critical and creative thinking. These goals can be used in conjunction with selected issues and questions for inquiry.

ISSUES AND QUESTIONS FOR INQUIRY

In this topic, at least one issue and one question must be addressed using appropriate inquiry strategies (see page 4). Students are encouraged to address several issues and questions for inquiry. Teachers are encouraged to adapt these, and to develop other questions and issues for inquiry.

Issues

a. To what extent should governments encourage nationalistic feelings among their people?
b. To what extent should nations place their interests above the interests of other nations?
c. Should governments control the spread of ideologies within their borders?

Questions

d. Why did revolution occur in France?
e. How did the various segments of a particular society adjust to change?
f. How did industrialization contribute to the rise of nationalism and imperialism?
g. How did the Industrial Revolution contribute to the rise of new ideologies?
h. How did quality of life change as a result of industrialization?
i. Why did World War I occur?

594

SPECIFIC LEARNER OBJECTIVES

In order to provide a clear statement of what students are expected to learn about this topic, the content has been organized into knowledge, skill and attitude objectives. However, for instructional purposes, the knowledge, skill and attitude objectives are to be incorporated into an organizational model for teaching the topic. Sample instructional models are provided in the Social Studies 10-20-30 Teacher Resource Manual, 1990. *Flexibility in selecting and designing an instructional organization for the unit is intended to accommodate the needs of students, maximize the use of available resources, and allow for coordination of instructional planning. Consequently, the knowledge, skill and attitude objectives should be integrated for instructional purposes, not taught in an isolated fashion. It is intended that each topic should receive equal emphasis in the course. Equal weighting should be given to knowledge and skill objectives in each topic. Attitude objectives should be addressed throughout the topic. Assessment of attitude objectives should not be used in calculating grades.*

Knowledge Objectives

The generalizations and key understandings, concepts and related facts and content listed in this topic are presented as an outline of the required content and help to organize the knowledge objectives. **The generalizations and key understandings are the most important knowledge objectives.** The concepts and related facts and content should be developed and used to facilitate an understanding of the Generalizations and Key Understandings.

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: NATIONALISM		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **the emergence of new ideas and forces resulted in changes within society**	revolution	Examine ideas and forces that contributed to the French Revolution: • intellectual • political • economic • social
	egalitarianism	Identify changes to French society: • individual rights • structure of society

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: NATIONALISM (continued)		
b. **a new form of nationalism emerged during the French Revolution**	nationalism	Examine how this new form of nationalism contributed to the evolution of the modern nation–state
c. **the French Revolution led to the spread of revolutionary ideas throughout Europe**	liberalism	Examine the changes brought about by revolutionary forces and Napoleon: • carrying the ideas of the revolution abroad • centralization of the nation–state
d. **the revolutionary changes of the Napoleonic period resulted in a conservative reaction**	conservatism legitimacy	Illustrate the changes brought about by the Congress of Vienna: • conservative reaction • reaction to nationalism
e. **nationalism continued as a force of change in European society**	change	Refer to one or two examples of nationalistic movements
THEME II: INDUSTRIALIZATION AND IDEOLOGIES		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **industrialization resulted in changes in society**	industrialization urbanization	Describe changes in methods of production: • domestic to factory production • subsistence to surplus production

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME II: INDUSTRIALIZATION AND IDEOLOGIES (continued)		
		Briefly examine the changes brought about by industrialization: • political changes – Fabian Society – rise of Labour parties • social changes – urbanization – impact on the family – role of women – rise of the middle class – rise of the working class – universal education • cultural changes as illustrated through selected examples from at least one of the following areas: – literature – art – music – science – religion
b. **many modern political and economic ideas and ideologies developed in nineteenth century Europe**	capitalism conservatism liberalism socialism communism	Examine ideological changes and ideas as advanced by: • Adam Smith • Edmund Burke • John Stuart Mill • Robert Owen • Charles Fourier • Karl Marx • Others (ideas, such as utilitarianism as expounded by Jeremy Bentham, may be examined)

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME III: IMPERIALISM		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **nations engage in imperialism for a variety of reasons**	imperialism	Briefly examine the reasons for imperialism: • economic • political • social • cultural • humanitarian • religious
b. **nations expanded their empires**	colonialism spheres of influence	Refer to examples of European imperialism on a global scale and the impact of imperialism: • on colonies – economic – political • on the mother country – economic – political
c. **the expansion of empires by European nations led to cultural diffusion**	cultural diffusion	Briefly explain the diffusion of European culture throughout the world
d. **competition often occurred among imperialist powers**	competition	Identify examples of conflict and cooperation among the imperialist powers: • conflict; e.g.: – Fashoda incident – Moroccan crisis – the Middle East – the Balkans • agreements; e.g.: – Berlin Conference – partition of China

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME IV: INTERNATIONAL CONFLICT		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **the pursuit of national interests at the expense of other nations may result in international conflict**	national interest balance of power militarism alliances	Examine the causes of World War I: • emergence of new nations – Italy – Germany • competing foreign policies • imperial rivalries • arms race • nationalistic fervour – Balkans • alliance system • diplomatic errors
b. **there were changes in the nature of warfare and attitudes toward war**	conscription world war	Briefly examine the "Great War" to show change: • strategies and objectives of the competing powers • mechanized weapons • Wilson's Fourteen Points • armistice • "the war to end all wars"

Skill Objectives

Skills have been organized into process, communication and participation categories, with inquiry strategies included to emphasize the fact that skills are interrelated and often developed together. This section contains a list of skills to be addressed in this topic; however, these skills may be interchanged with those listed in Topic B or addressed in both topics at this grade level. Skills are interrelated and should be integrated with the knowledge and attitude objectives in the instructional process.

Process Skills

Process skills help one acquire, evaluate and use information and ideas. These skills include gathering, organizing, interpreting, analyzing, synthesizing and evaluating.

Students will be expected to develop the ability to:

a. **summarize information from a variety of print and non-print sources**
b. **distinguish between different points of view**
c. **make decisions and defend their choice.**

Communication Skills

Communication skills help one express and present information and ideas. These skills include oral, visual and written expression.

Students will be expected to develop the ability to:

a. **present ideas effectively in class debate**
b. **convey information and express ideas using time lines, charts and concept maps**
c. **establish a thesis or take a position and defend it in a well written essay.**

Participation Skills

Participation skills enable one to interact with others. These skills include working effectively, individually and cooperatively, in group situations.

Students will be expected to develop the ability to:

a. **interact effectively with others in a variety of group settings**
b. **participate in group decision making.**

Inquiry Strategies

Inquiry strategies are combinations of skills that help one answer questions, solve problems and make decisions using process, communication and participation skills.

Students will be expected to develop the ability to:

a. **use creative and critical thinking skills in problem-solving and decision-making strategies**
b. **consider alternatives, make decisions and substantiate their choices**
c. **critically examine processes and changes that have affected society**
d. **use appropriate inquiry models to answer questions, solve problems and resolve issues.**

6C0

Attitude Objectives

The nature of social studies requires the examination of values and the encouragement of positive attitudes among students. While attention should be given to developing as many desirable personal characteristics and attitudes in students as possible, some attitudes need to be identified for particular emphasis in each topic. Students should participate in activities that help develop positive attitudes toward one another. Learning should take place in an atmosphere of free and open inquiry.

Students will be expected to develop:

a. **an appreciation of the influence of ideas from the past on society**
b. **an awareness of different points of view on issues and episodes in the human experience**
c. **respect for the right of others to hold a different point of view**
d. **an appreciation of the need to understand the background to events and issues.**

THE GROWTH OF THE GLOBAL PERSPECTIVE
Topic B: Interdependence in the Global Environment

DESCRIPTION

Economic growth and development have led to increased global interdependence. A responsible world citizen needs to be aware of this interdependence and its effect on quality of life. Students will examine, on a global scale, diversity, development, quality of life and alternative futures. This study will include an understanding of different perspectives on global issues.

CRITICAL AND CREATIVE THINKING GOALS

In order to encourage critical and creative thinking, students should acquire the knowledge and skills necessary to:

a. analyze examples of global interaction
b. evaluate various perspectives on global questions and issues
c. evaluate the effect of economic development on quality of life
d. present alternative solutions to selected issues.

It must be recognized that the degree to which students will be able to address the goals listed above will vary. Students should engage in activities such as role playing, simulations, debates, presentations or research assignments that give them an opportunity to participate, and to develop critical and creative thinking. These goals can be used in conjunction with selected issues and questions for inquiry.

ISSUES AND QUESTIONS FOR INQUIRY

In this topic, at least one issue and one question must be addressed using appropriate inquiry strategies (see page 4). Students are encouraged to address several issues and questions for inquiry. Teachers are encouraged to adapt these, and to develop other questions and issues for inquiry.

Issues

a. Should individuals be concerned about quality of life in other parts of the world?
b. Should developed countries set the standard for quality of life?
c. To what extent should environmental concerns restrict economic development?
d. Should economic growth and development be a primary goal for all nations?
e. To what extent should the world be optimistic about its future?

Questions

f. What is the relationship between global interdependence and economic development?
g. What constitutes quality of life?
h. What are the consequences of economic development on the environment?
i. How will proposed solutions on a particular issue affect quality of life in the future?

SPECIFIC LEARNER OBJECTIVES

In order to provide a clear statement of what students are expected to learn about this topic, the content has been organized into knowledge, skill and attitude objectives. However, for instructional purposes, the knowledge, skill and attitude objectives are to be incorporated into an organizational model for teaching the topic. Sample instructional models are provided in the Social Studies 10-20-30 Teacher Resource Manual, 1990. *Flexibility in selecting and designing an instructional organization for the unit is intended to accommodate the needs of students, maximize the use of available resources, and allow for coordination of instructional planning. Consequently, the knowledge, skill and attitude objectives should be integrated for instructional purposes, not taught in an isolated fashion. It is intended that each topic should receive equal emphasis in the course. Equal weighting should be given to knowledge and skill objectives in each topic. Attitude objectives should be addressed throughout the topic. Assessment of attitude objectives should not be used in calculating grades.*

Knowledge Objectives

The generalizations and key understandings, concepts and related facts and content listed in this topic are presented as an outline of the required content and help to organize the knowledge objectives. **The generalizations and key understandings are the most important knowledge objectives.** The concepts and related facts and content should be developed and used to facilitate an understanding of the Generalizations and Key Understandings.

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: GLOBAL DIVERSITY		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **diversity and disparity exist in the modern world**	diversity disparity	Illustrate diversity and disparity through a brief overview of world geography: • geographic regions • political alignments • economic zones

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: GLOBAL DIVERSITY (continued)		
b. **nations are interdependent**	interdependence interaction	Introduce the concept of interdependence among nations; e.g.: • trade • technology • markets • communications • migration • transportation
c. **national interests affect international relationships**	national interests	Identify factors that affect international relationships, such as: • competition for markets and resources • ideologies • pressure and prestige • tied aid • defensive alliances
THEME II: ECONOMIC DEVELOPMENT AND INTERDEPENDENCE		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **there are factors that affect development**	development	Examine how the following factors influence economic development: • geography • capital • resources • technology • culture • markets • politics • decision making – role of tradition – role of new ideas – costs/benefits analysis

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME II: ECONOMIC DEVELOPMENT AND INTERDEPENDENCE (continued)		
b. **economic growth and interactions have increased global interdependence**	economic independence economic interdependence	Select examples from the following areas to illustrate international interdependence: • food • energy • minerals • manufactured goods • multinational corporations • financial institutions • foreign debt
c. **countries approach economic expansion in different ways**	economic growth developing nations	Use case studies of economic development to illustrate various approaches: • examples should include successful and unsuccessful approaches
d. **development is a complex issue influenced by local and international factors**		Identify those factors that contributed to the success or failure in each case study above. Consider how the approaches might work in other situations.
THEME III: QUALITY OF LIFE		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **quality of life is composed of a variety of factors**	quality of life	Explain quality of life by examining: • economics – standard of living – basic material needs – industrial development – technological development

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME III: QUALITY OF LIFE (continued)		
		• culture – personal views – spiritual beliefs – tradition/change • human rights considerations – basic human rights – individual rights – collective rights
b. **quality of life is defined from different perspectives**	cultural diversity perspectives	Compare the western emphasis on technological advancement and economic growth with at least one other perspective.
c. **quality of life is increasingly affected by environmental issues of global concern**	environmentalism	Choose several examples and study their impact on human populations: • deforestation • desertification • pollution – acid rain – oceans – nuclear and oil – waste disposal • irrigation – fresh water – effect on land • atmosphere • greenhouse effect • energy depletion

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME IV: ALTERNATIVE FUTURES: POSSIBILITIES FOR CHANGE		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **there are issues of common global concern**	equity justice ecological balance	Study at least one issue of global concern in the following areas; e.g.: • food sources and distribution • resource consumption • energy sources • spread of disease • armed conflict • demographic pressures • distribution of wealth
b. **solutions to global concerns often require international dialogue**	cooperation humanitarianism	Identify opportunities for international dialogue and cooperation: • United Nations' agencies and resolutions • international law • trade agreements • worldwide conferences • non-governmental organizations
c. **there are potential solutions to global concerns**	sustainable development	Study several examples to illustrate solutions to global problems; e.g.: • education • new food sources • transportation/ communications • alternative energy sources • waste management • medical advances • atmospheric regulations • appropriate technology

Skill Objectives

Skills have been organized into process, communication and participation categories, with inquiry strategies included to emphasize the fact that skills are interrelated and often developed together. This section contains a list of skills to be addressed in this topic; however, these skills may be interchanged with those listed in Topic A or addressed in both topics at this grade level. Skills are interrelated and should be integrated with the knowledge and attitude objectives in the instructional process.

Process Skills

Process skills help one acquire, evaluate and use information and ideas. These skills include gathering, organizing, interpreting, analyzing, synthesizing and evaluating.

Students will be expected to develop the ability to:

a. **summarize materials after listening to and observing presentations**
b. **interpret and use information from maps, graphs, charts and tables**
c. **identify appropriate information and ideas as evidence to support a point of view**
d. **develop and evaluate proposed solutions.**

Communication Skills

Communication skills help one express and present information and ideas. These skills include oral, visual and written expression.

Students will be expected to develop the ability to:

a. **present information effectively in a group forum**
b. **use comparisons and examples in a written presentation**
c. **convey information by producing illustrations of proposed solutions**
d. **use quotes and references to provide support for their views (footnotes, bibliographies).**

Participation Skills

Participation skills enable one to interact with others. These skills include working effectively, individually and cooperatively, in group situations.

Students will be expected to develop the ability to:

a. **participate in an informed way in discussions on global issues that affect society**
b. **resolve differences of opinion by debating reasonably and rationally**
c. **work effectively with others in a variety of group settings.**

Inquiry Strategies

Inquiry strategies are combinations of skills that help one answer questions, solve problems and make decisions using process, communication and participation skills.

Students will be expected to develop the ability to:

a. **consider alternative perspectives, make decisions and substantiate their choices regarding global issues**
b. **examine the processes whereby decisions affecting themselves and global society are made**
c. **use appropriate inquiry models to answer questions, solve problems and resolve issues about interdependence in the global environment**
d. **evaluate alternative solutions on global issues.**

608

Attitude Objectives

The nature of social studies requires the examination of values and the encouragement of positive attitudes among students. While attention should be given to developing as many desirable personal characteristics and attitudes in students as possible, some attitudes need to be identified for particular emphasis in each topic. Students should participate in activities that help develop positive attitudes toward one another. Learning should take place in an atmosphere of free and open inquiry.

Students will be expected to develop:

a. **an appreciation of the diversity that exists in the world**
b. **an appreciation that different perspectives exist on quality of life**
c. **an awareness and appreciation of the interdependent nature of the world**
d. **a willingness to consider a variety of perspectives on global issues and questions.**

SOCIAL STUDIES 30

THE CONTEMPORARY WORLD
Topic A: Political and Economic Systems

DESCRIPTION

The twentieth century has been dominated by interactions among nations. These nations are organized into different political and economic systems. In order to better understand the contemporary world, students will critically examine the underlying theories and principles of these systems. Students will also develop an understanding of the main features of political and economic systems and the circumstances under which political and economic systems are developed, challenged and changed in practice. Students should focus on individual and group roles in various political and economic systems and the appropriate balance between the collective good and individual interests.

CRITICAL AND CREATIVE THINKING GOALS

In order to encourage critical and creative thinking, students should acquire the knowledge and skills necessary to:

a. analyze and compare features and underlying principles of political and economic systems
b. assess why political and economic systems differ in theory and practice
c. defend their choice of the most desirable and effective features of selected political and economic systems
d. suggest changes that political and economic systems could incorporate to better serve the needs and interests of individuals and society.

It must be recognized that the degree to which students will be able to address the goals listed above will vary. Students should engage in activities such as role playing, simulations, debates, presentations or research assignments that give them an opportunity to participate, and to develop critical and creative thinking. These goals can be used in conjunction with selected issues and questions for inquiry.

ISSUES AND QUESTIONS FOR INQUIRY

In this topic, at least one issue and one question must be addressed using appropriate inquiry strategies (see page 4). Students are encouraged to address several issues and questions for inquiry. Teachers are encouraged to adapt these, and to develop other questions and issues for inquiry. Issues and questions should be selected in a manner that covers both the political and economic components of the topic.

Issues

a. To what extent should political decision making be restricted to a particular group in society?
b. To what extent should political and economic systems emphasize the collective good at the expense of individual interests?
c. Should the government intervene in the economic system to protect the interests of society?
d. To what extent should minority rights be protected in society? Should there be limits on the rights of the majority?

Questions

e. How are the rights and responsibilities of the individual provided for in various political and economic systems?
f. What features of the Canadian political and economic system allow individuals to participate in decision making?
g. What similarities and differences exist between ideological theory and practice in various political and economic systems?
h. How do political and economic systems adapt to meet the challenges of changing circumstances?
i. In what ways does the Canadian government intervene in the Canadian economic system?

SPECIFIC LEARNER OBJECTIVES

In order to provide a clear statement of what students are expected to learn about this topic, the content has been organized into knowledge, skill and attitude objectives. However, for instructional purposes, the knowledge, skill and attitude objectives are to be incorporated into an organizational model for teaching the topic. Sample instructional models are provided in the Social Studies 10–20–30 Teacher Resource Manual, 1990. *Flexibility in selecting and designing an instructional organization for the unit is intended to accommodate the needs of students, maximize the use of available resources, and allow for coordination of instructional planning. Consequently, the knowledge, skill and attitude objectives should be integrated for instructional purposes, not taught in an isolated fashion. It is intended that each topic should receive equal emphasis in the course. Equal weighting should be given to knowledge and skill objectives in each topic. Attitude objectives should be addressed throughout the topic. Assessment of attitude objectives should not be used in calculating grades.*

Knowledge Objectives

The generalizations and key understandings, concepts and related facts and content listed in this topic are presented as an outline of the required content and help to organize the knowledge objectives. **The generalizations and key understandings are the most important knowledge objectives.** The concepts and related facts and content should be developed and used to facilitate an understanding of the Generalizations and Key Understandings.

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: POLITICAL AND ECONOMIC SYSTEMS IN THEORY		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **ideologies contain beliefs and ideas about human nature and are used to explain and justify political and economic systems**	ideology individualism collectivism	Identify the principle features of: • liberalism • conservatism • socialism • capitalism • fascism • communism

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: POLITICAL AND ECONOMIC SYSTEMS IN THEORY (continued)		
b. **political systems are organized to allocate political power that involves the authority to make and to implement decisions in society**	power decision making	Examine the role of the following in the allocation of power and the organization and operation of political systems: • constitution – executive power – legislative power – judicial power • structure of government – federal – unitary • laws, rules and regulations as they apply to: – political parties – voters – system of representation – interest groups – media – dissemination of information – limits on dissent – role of the military, police, civil service
c. **political systems may be organized in a democratic manner**	democracy	Briefly identify the major types, characteristics and features of democratic systems: • types – direct/representative – parliamentary – presidential • characteristics/features – majority rule – citizenship participation – accountability of government to the people – minority rights – guarantee of individual rights and freedoms – opposition – limits on dissent – provision for changes to the system – political parties

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: POLITICAL AND ECONOMIC SYSTEMS IN THEORY (continued)		
d. **political systems may be organized in a dictatorial manner**	dictatorship	Briefly identify the major types, characteristics and features of dictatorship: • types – autocracy – oligarchy – majority tyranny – minority tyranny – absolute monarchy – military dictatorship • characteristics/features – authoritarian – totalitarian – use of force – control of media – controlled participation – limits on dissent – accountability of government – provision for changes to the system
e. **economic systems are organized to deal with the production and distribution of goods and services in society**	scarcity	Examine the basic economic questions that must be answered in any economic system: • what to produce? – limits – choices/opportunity costs • how to produce? – land/labour/capital • how to distribute? – allocation of goods/services • who makes the decisions about the allocation of resources, methods of production and the distribution of goods and services?
f. **economic systems may be based on the principles of private enterprise**	private enterprise capitalism market	Identify the major characteristics of a private enterprise system: • private property • competition • individual incentive

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: POLITICAL AND ECONOMIC SYSTEMS IN THEORY (continued)		
		• supply and demand • how the basic economic questions are answered
g. **economic systems may be based on principles of public enterprise**	public enterprise socialism command	Identify the major characteristics of a public enterprise system: • collective property • cooperation • group incentive • centrally planned economy • how the basic economic questions are answered
THEME II: POLITICAL AND ECONOMIC SYSTEMS IN PRACTICE		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **in practice, political and economic systems differ from theory**	mixed economy adaptation tradition	Use Canada, the United States, the U.S.S.R., Nazi Germany and Sweden as examples to show how ideas and ideologies are used in practice. Refer to other current examples to illustrate how systems differ from theory.
b. **political and economic systems adapt to new ideas and changing circumstances**	collectivization privatization nationalization intervention depression business cycle	Briefly examine political and economic changes in: • Canada – role of government – monetary policy – fiscal policy • the United States – Great Depression – New Deal – Keynesian economics

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME II: POLITICAL AND ECONOMIC SYSTEMS IN PRACTICE (continued)		• the Soviet Union under the leadership of Lenin, Stalin and Gorbachev • Sweden – indicative planning
c. **political leaders achieve, exercise and maintain power in different ways in democracies and dictatorships**	majority rule totalitarianism elitism accountability	Examine how political power was achieved, exercised and maintained in democracies and dictatorships: • Canada; e.g.: – responsible government • the United States; e.g.: – separation of powers • the U.S.S.R.; e.g.: – the Russian Revolution and the role of the Communist Party • Nazi Germany; e.g.: – the role of Hitler and the Nazi Party
d. **the role of the individual in society is affected by the emphasis placed on collective good or individualism**	individualism collectivism political rights economic rights minority rights democratic socialism	Briefly consider the role of laws, rules and regulations, and basic rights, as well as responsibilities of the individual in: • Canada • the United States • the U.S.S.R. • Sweden • Nazi Germany
e. **new issues and ideas challenge traditional political and economic beliefs and practices**	human rights justice human survival	Examine recent issues that illustrate the need for change and adaptation in existing political and economic arrangements. These may involve issues drawn from: • environmental concerns • ideological challenges • economic opportunity • breadth of political parties

Skill Objectives

Skills have been organized into process, communication and participation categories, with inquiry strategies included to emphasize the fact that skills are interrelated and often developed together. This section contains a list of skills to be addressed in this topic; however, these skills may be interchanged with those listed in Topic B or addressed in both topics at this grade level. Skills are interrelated and should be integrated with the knowledge and attitude objectives in the instructional process.

Process Skills

Process skills help one acquire, evaluate and use information and ideas. These skills include gathering, organizing, interpreting, analyzing, synthesizing and evaluating.

Students will be expected to develop the ability to:

a. **access and use appropriate sources of information**
b. **synthesize information and ideas**
c. **determine underlying assumptions of a statement or position**
d. **formulate and evaluate alternative conclusions, solutions and decisions**
e. **logically defend a position on an issue or a problem.**

Communication Skills

Communication skills help one express and present information and ideas. These skills include oral, visual and written expression.

Students will be expected to develop the ability to:

a. **develop a thesis and support it in a well written essay**
b. **express ideas and information by constructing graphs, charts, concept maps and time lines**
c. **effectively defend a point of view orally or in writing.**

Participation Skills

Participation skills enable one to interact with others. These skills include working effectively, individually and cooperatively, in group situations.

Students will be expected to develop the ability to:

a. **work effectively with others in a group setting to reach consensus or compromise**
b. **assume appropriate leadership and support roles**
c. **use a variety of skills in an appropriate manner (exhibit confidence in their own ideas and work, but present them in a considerate manner).**

Inquiry Strategies

Inquiry strategies are combinations of skills that help one answer questions, solve problems and make decisions using process, communication and participation skills.

Students will be expected to develop the ability to:

a. **design, select and use appropriate inquiry strategies to answer questions, solve problems and make decisions**
b. **demonstrate maturity of thought in stating and defending a position**
c. **use creative analogy and metaphor to show relationships or to describe a situation.**

Attitude Objectives

The nature of social studies requires the examination of values and the encouragement of positive attitudes among students. While attention should be given to developing as many desirable personal characteristics and attitudes in students as possible, some attitudes need to be identified for particular emphasis in each topic. Students should participate in activities that help develop positive attitudes toward one another. Learning should take place in an atmosphere of free and open inquiry.

Students will be expected to develop:

a. **an appreciation of independent and critical thinking about significant social issues**
b. **intellectual curiosity, open-mindedness and interest in current issues related to political and economic systems**
c. **an appreciation of the strengths and weaknesses of different economic and political systems**
d. **and demonstrate a commitment to citizenship in democratic systems.**

THE CONTEMPORARY WORLD
Topic B: Global Interaction in the Twentieth Century

DESCRIPTION

In the twentieth century, nations have used a variety of means to protect, sustain and enhance their national interests. Interaction among nations has increased global interdependence. World peace and security depend on limiting confrontations and increasing cooperation and understanding. Individuals, groups and nations must make informed decisions on issues regarding their interests and global survival. In order to gain an understanding of the contemporary world, students will focus on the motives, consequences and alternative choices in twentieth century global interactions since the First World War.

CRITICAL AND CREATIVE THINKING GOALS

In order to encourage critical and creative thinking, students should acquire the knowledge and skills necessary to:

a. evaluate the desirability and effectiveness of the strategies and techniques used by individuals and governments to further their national interests
b. analyze international events to determine their impact on people and on global cooperation and understanding
c. evaluate and assess a variety of viewpoints on international issues before forming an opinion
d. propose solutions to international problems and assess the viability of the alternatives.

It must be recognized that the degree to which students will be able to address the goals listed above will vary. Students should engage in activities such as role playing, simulations, debates, presentations or research assignments that give them an opportunity to participate, and to develop critical and creative thinking. These goals can be used in conjunction with selected issues and questions for inquiry.

ISSUES AND QUESTIONS FOR INQUIRY

In this topic, at least one issue and one question must be addressed using appropriate inquiry strategies (see page 4). Students are encouraged to address several issues and questions for inquiry. Teachers are encouraged to adapt these, and to develop other questions and issues for inquiry.

Issues

a. Should individuals, groups and nations pursue international stability at the expense of national interests?
b. Should international organizations be used to achieve global collective security?
c. Should nations form alignments to protect their own interests, or to further international understanding?
d. Should nations pursue national interests beyond their boundaries?

Questions

e. What motivates nations to take on particular roles in international affairs?
f. What are the major causes of twentieth century confrontations?
g. What agencies exist to encourage cooperation among states?
h. In what ways are relations between the superpowers changing?
i. What role can an individual or group play in international affairs?
j. How has the power and influence of nations shifted in the course of the twentieth century?

618

SPECIFIC LEARNER OBJECTIVES

In order to provide a clear statement of what students are expected to learn about this topic, the content has been organized into knowledge, skill and attitude objectives. However, for instructional purposes, the knowledge, skill and attitude objectives are to be incorporated into an organizational model for teaching the topic. Sample instructional models are provided in the Social Studies 10-20-30 Teacher Resource Manual, 1990. *Flexibility in selecting and designing an instructional organization for the unit is intended to accommodate the needs of students, maximize the use of available resources, and allow for coordination of instructional planning. Consequently, the knowledge, skill and attitude objectives should be integrated for instructional purposes, not taught in an isolated fashion. It is intended that each topic should receive equal emphasis in the course. Equal weighting should be given to knowledge and skill objectives in each topic. Attitude objectives should be addressed throughout the topic. Assessment of attitude objectives should not be used in calculating grades.*

Knowledge Objectives

The generalizations and key understandings, concepts and related facts and content listed in this topic are presented as an outline of the required content and help to organize the knowledge objectives. **The generalizations and key understandings are the most important knowledge objectives.** The concepts and related facts and content should be developed and used to facilitate an understanding of the Generalizations and Key Understandings.

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: INTERNATIONAL CONFRONTATION AND COOPERATION: AN INTRODUCTION		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **international confrontations arise from a variety of motives and result in different types of interactions**	confrontation	Briefly illustrate the following motives and forms of international confrontation: • motives – nationalism – self-determination – expansionism – ideology/beliefs

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: INTERNATIONAL CONFRONTATION AND COOPERATION: AN INTRODUCTION (continued)		
		• forms of confrontation – total war – limited war – guerrilla war – terrorism – brinkmanship – diplomatic – economic
b. **international cooperation arises from a variety of motives and results in different forms of cooperation**	cooperation	Briefly illustrate the following motives and forms of international cooperation: • motives – collective security – internationalism – nationalism – balance of power – humanitarianism – global survival • forms of cooperation – alliances – economic blocs – political groupings – regional organizations – international organizations – agreements – non-governmental organizations; e.g., cultural groups, popular movements

620

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME II: GLOBAL INTERACTIONS: INTERWAR PERIOD AND WORLD WAR II		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **international agreements may create the grounds for future confrontations**	nationalism national security self-determination	Examine the situation at the end of the First World War and the *Treaty of Versailles* to illustrate how the settlements contributed to future confrontations: • territorial adjustments • arms restrictions • reparations • limitations on sovereignty • war guilt clause
b. **attempts at international cooperation are sometimes successful**	internationalism	Identify various forms of international cooperation in the interwar period; e.g.: • League of Nations • treaties • conferences
c. **security arrangements may strengthen or undermine global systems of collective security**	regional security global collective security alliances	Examine the search for security in the 1920s and 1930s by referring to: • global collective security; e.g.: – League of Nations • regional security arrangements; e.g.: – Little Entente • isolationism; e.g.: – United States • treaties; e.g.: – Nazi-Soviet Non-aggression Pact

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME II: GLOBAL INTERACTIONS: INTERWAR PERIOD AND WORLD WAR II (continued)		
d. **expansionist foreign policy may arise from a variety of motives or circumstances and elicit a variety of responses**	economic security ideologies expansionism appeasement	Examine the policies and motives of nations who promoted or opposed expansionism in the 1930s by referring briefly to the circumstances faced by: • Germany • Italy • Japan • the U.S.S.R. • France • Great Britain • the United States
e. **the Second World War altered both the nature of warfare and the international balance of power**	conflict total war genocide balance of power justice human rights	Briefly examine the impact of the Second World War: • brief overview of the war – the expansion of the Axis Powers – the Grand Alliance – the defeat of the Axis Powers • the changing nature of warfare – blitzkrieg – the Holocaust – civilian bombing – Hiroshima/Nagasaki • concern about justice and human rights – *Atlantic Charter* – war crimes • negotiations for post-war settlements – Yalta – Potsdam • occupation of Germany and Japan – unconditional surrender

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME III: THE RISE AND INTERACTION OF THE SUPERPOWERS		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **a shift in the balance of power results in new alignments among nations**	balance of power spheres of influence containment cold war	Briefly describe the emergence of the cold war in Europe and Asia: • the Iron Curtain • Marshall Plan • Truman Doctrine • Berlin Blockade • NATO • Warsaw Pact • Korean War • SEATO
b. **the emergence of new nation-states influenced the foreign policies of the superpowers**	decolonization guerrilla warfare limited war	Briefly examine how issues raised by the emergence of new nations influenced the foreign policy of the superpowers: • Israel • China (1949) • Vietnam
c. **international arrangements for global peace and stability take into account the realities of power**	global collective security	Describe the structure, procedures and role of the United Nations in maintaining international peace: • General Assembly • Security Council • peacekeeping forces
d. **the superpowers have faced pressures of self-determination within their spheres of influence**	terrorism non-alignment civil war self-determination	Briefly examine the challenges faced by the Soviet Union in Eastern Europe, the United States in Central America and in the Caribbean, and both superpowers in the Middle East and Africa.

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME III: THE RISE AND INTERACTION OF THE SUPERPOWERS (continued)		
e. **the development of nuclear weapons has been viewed as both a stabilizing and a destabilizing influence in international relations**	brinkmanship deterrence detente peaceful coexistence arms race disarmament	Examine the following as examples of stabilizing or destabilizing developments: • nuclear arms control treaties; e.g.: – Strategic Arms Limitations Talks (SALT) negotiations • nuclear arms confrontation; e.g.: – Cuban Missile Crisis • nuclear arms technology; e.g.: – cruise missiles – Strategic Defence Initiative (SDI) • international conferences; e.g.: – summit conferences – European security conferences
THEME IV: CONTEMPORARY GLOBAL INTERACTIONS		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **global interactions are increasingly influenced by economic developments**	interdependence	Briefly examine the impact on the international community of the following: • growth of multinational corporations • shifts in industrial production; e.g., Pacific Rim nations • international debt

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME IV: CONTEMPORARY GLOBAL INTERACTIONS (continued)		
b. **nations form regional organizations to solve common problems**	regional cooperation	Describe the purpose for regional cooperation by examining the European Community and one other organization; e.g.: • Association of South East Asian Nations (ASEAN) • Organization of African Unity (OAU) • Organization of American States (OAS)
c. **concern for global peace, human rights and the environment have emphasized the need for international cooperation and understanding**	humanitarianism environmentalism	Identify the role of the following in international cooperation and understanding: • *Universal Declaration of Human Rights* • Helsinki Agreements • Amnesty International • environmental groups and conferences • peace movements

Skill Objectives

Skills have been organized into process, communication and participation categories, with inquiry strategies included to emphasize the fact that skills are interrelated and often developed together. This section contains a list of skills to be addressed in this topic; however, these skills may be interchanged with those listed in Topic A or addressed in both topics at this grade level. Skills are interrelated and should be integrated with the knowledge and attitude objectives in the instructional process.

Process Skills

Process skills help one acquire, evaluate and use information and ideas. These skills include gathering, organizing, interpreting, analyzing, synthesizing and evaluating.

Students will be expected to develop the ability to:

a. **prepare, interpret and analyze retrieval charts, concept maps, time lines, graphs and maps**
b. **critically evaluate the message in visual material and identify the purpose and intended audience**
c. **analyze information from a variety of sources, compare different points of view and predict outcomes**
d. **propose and evaluate solutions to international problems.**

Communication Skills

Communication skills help one express and present information and ideas. These skills include oral, visual and written expression.

Students will be expected to develop the ability to:

a. **express ideas clearly in oral form for a variety of purposes to different audiences**
b. **write persuasively and effectively to support one's point of view**
c. **construct and use visual aids to support ideas.**

Participation Skills

Participation skills enable one to interact with others. These skills include working effectively, individually and cooperatively, in group situations.

Students will be expected to develop the ability to:

a. **display self-confidence and respect for the opinion of others when discussing social issues**
b. **work effectively with others in a variety of group settings**
c. **participate effectively in social and political processes.**

Inquiry Strategies

Inquiry strategies are combinations of skills that help one answer questions, solve problems and make decisions using process, communication and participation skills.

Students will be expected to develop the ability to:

a. **explain the cause and effect relationships among historical events**
b. **establish relationships between historical events and present circumstances**
c. **evaluate strategies used by nations, organizations and individuals in dealing with international problems**
d. **use appropriate inquiry models to answer questions, solve problems and resolve issues regarding international interactions.**

626

Attitude Objectives

The nature of social studies requires the examination of values and the encouragement of positive attitudes among students. While attention should be given to developing as many desirable personal characteristics and attitudes in students as possible, some attitudes need to be identified for particular emphasis in each topic. Students should participate in activities that help develop positive attitudes toward one another. Learning should take place in an atmosphere of free and open inquiry.

Students will be expected to develop:

a. **a sense of curiosity regarding patterns of global interaction**
b. **an appreciation of the interdependent nature of the world**
c. **an active interest in international issues and events**
d. **commitment to the achievement of constructive and positive global interactions.**

D. BASIC LEARNING RESOURCES

Social Studies 10

Topic A

Kirbyson, Ronald C. et al. *Discovering Canada: Shaping an Identity*. Scarborough, ON: Prentice-Hall Canada Inc., 1983.

ISBN 0132155419

Scully, Angus L., Carl F. Smith and Daniel J. McDevitt. *Canada Today*. Second edition. Scarborough, ON: Prentice-Hall Canada Inc., 1988.

ISBN 0131131354

Topic B

Kirbyson, Ronald C. et al. *Discovering Canada: Shaping an Identity*. Scarborough, ON: Prentice-Hall Canada Inc., 1983.

ISBN 0132155419

Scully, Angus L., Carl F. Smith and Daniel J. McDevitt. *Canada Today*. Second edition. Scarborough, ON: Prentice-Hall Canada Inc., 1988.

ISBN 013113154

Social Studies 20

Topic A

Beers, Burton F. *World History: Patterns of Civilization: Alberta Edition*. Scarborough, ON: Prentice-Hall Canada Inc., 1990.

ISBN 0139648674

Topic B

Mitchner, E. Alyn and R. Joanne Tuffs. *One World*. Edmonton, AB: Reidmore Books Inc., 1989.

ISBN 0919091628

Molyneux, John and Marilyn MacKenzie. *World Prospects: A Contemporary Study*. Second edition. Scarborough, ON: Prentice-Hall Canada Inc., 1987.

ISBN 0139678298

Social Studies 30

Topic A

Baldwin, Douglas and William Calder. *Ideologies*. Toronto, ON: McGraw-Hill Ryerson Limited, 1982.

ISBN 0070923299

Powrie, T. L. (ed.). *Political and Economic Systems*. Revised edition. Toronto, ON: HBJ-Holt-Saunders, 1983.

ISBN 0774712120

Roselle, D. et al. *Our Western Heritage: A Cultural-Analytic History of Europe since 1500*. Scarborough, ON: Ginn and Company, 1981. [Units 5-9]

ISBN 0663373778

Trueman, John et al. *Modern Perspectives*. Second edition. Toronto, ON: McGraw-Hill Ryerson Limited, 1979.

ISBN 0070829845

Viewpoints in World History Series

Feder, Bernard. *How Did the Communists Seize Power in Russia?* Toronto, ON: D. C. Heath Canada Ltd., 1979.

ISBN 0278465463

Feder, Bernard. *The Rise of the Nazi Horror: Who Was Responsible?* Toronto, ON: D. C. Heath Canada Ltd., 1974.

ISBN 0278465552

Topic B

Cannon, Jim et al. *The Contemporary World: Conflict or Cooperation?* Second Canadian edition. Toronto, ON: HBJ-Holt-Saunders, 1986.

ISBN 0774712481

Moore, Joseph and Roberta Joseph. *War and War Prevention.* Irwin Publishing, 1979.

ISBN 0773640118

Roselle, D. et al. *Our Western Heritage: A Cultural-Analytic History of Europe since 1500.* Scarborough, ON: Ginn and Company, 1981. [Units 5-9]

ISBN 0663373778

Stoessinger, John G. *Why Nations Go to War.* Fourth edition. Nelson Canada, 1985.

ISBN 0312878559

Trueman, John et al. *Modern Perspectives.* Second edition. Toronto, ON: McGraw-Hill Ryerson Limited, 1979.

ISBN 0070829845

Opposing Viewpoints Series

Bender, David L. *The Arms Race.* Markham, ON: Fitzhenry & Whiteside Limited, 1982.

ISBN 0899083145

Leone, Bruno. *Internationalism.* Markham, ON: Fitzhenry & Whiteside Limited, 1978.

Leone, Bruno. *Nineteenth Century Nationalism: The "Old" and the "New".* Markham, ON: Fitzhenry & Whiteside Limited, 1978. [Pamphlet]

ISBN S2259

Leone, Bruno. *The Middle East.* Markham, ON: Fitzhenry & Whiteside Limited, 1982.

ISBN 0899083153

Leone, Bruno. *Twentieth Century Nationalism: The Roots of Conflict?* Markham, ON: Fitzhenry & Whiteside Limited, 1978. [Pamphlet]

ISBN S2506

Bender, David L. *The Vietnam War.* Markham, ON: Fitzhenry & Whiteside Limited, 1984.

ISBN 0899083242

Bender, David L. and Bruno Leone. *War and Human Nature.* Markham, ON: Fitzhenry & Whiteside Limited, 1983.

ISBN 0899083161

Viewpoints in World History Series

Feder, Bernard. *How Did the Communists Seize Power in Russia?* Toronto, ON: D. C. Heath Canada Ltd., 1979.

ISBN 0278465463

Feder, Bernard. *The Rise of the Nazi Horror: Who Was Responsible?* Toronto, ON: D. C. Heath Canada Ltd., 1974.

ISBN 0278465552

SOCIAL STUDIES
13-23-33

A. PROGRAM RATIONALE AND PHILOSOPHY

Social studies is a school subject that assists students to acquire basic knowledge, skills and positive attitudes needed to be responsible citizens and contributing members of society. The content of social studies draws upon history, geography, economics, other social sciences, the behavioural sciences and the humanities. The content serves as the context in which important skills and attitudes are developed.

Central to all curricula are the students. The Alberta Social Studies Program takes the following factors into account:

The Nature and Needs of the Learner: The expected learnings are consistent with the social and intellectual maturity of the students.

The Nature and Needs of a Changing Society: The program prepares students for active and responsible participation in a changing world. It seeks to equip students with the knowledge and skills necessary to function in the society in which they must ultimately find their place.

The Nature of Knowledge in Each Subject Area: The program content reflects the vast scope of the disciplines of history, geography, economics and social sciences at a level consistent with the maturity of the students.

The Learning Environment: The program identifies what is to be taught and provides the flexibility for teachers to adapt the program to meet the needs of the learners. It addresses the needs and conditions in schools and the availability, accessibility and variety of learning resources within the school and community.

In our changing society, students will need to be practised at using a variety of skills and strategies. Students will need to be able to acquire knowledge, to interpret and communicate information, and to solve problems and make decisions. In doing all of this, students require a wide range of critical and creative thinking skills and strategies that they can apply to a variety of situations. Therefore, the concept of learners as receivers of information should be replaced with a view of learners as self-motivated, self-directed problem solvers and decision makers who are developing the skills necessary for learning and who develop a sense of self-worth and confidence in their ability to participate in a changing society.

In order to accommodate students with a wide range of abilities, needs, interests and aspirations, two sequences for the Senior High School Social Studies Program have been developed. Social Studies 10-20-30 is designed for those students who are seeking an Advanced High School Diploma and who will likely pursue post-secondary studies. Social Studies 13-23-33 will be of interest to those students who are pursuing a General High School Diploma, many of whom will probably go directly into the work force. Although the content, skills and attitudes are similar for both sequences, the expectations for Social Studies 10-20-30 are more challenging, particularly in the depth of concept development, the level of critical and creative thinking, and inquiry skill development. The nature of the student learning resources that are approved for each sequence differ.

B. GENERAL LEARNER EXPECTATIONS

RESPONSIBLE CITIZENSHIP

Responsible citizenship is the ultimate goal of social studies. Basic to this goal is the development of critical thinking. The "responsible citizen" is one who is knowledgeable, purposeful and makes responsible choices. Responsible citizenship includes:

- understanding the role, rights and responsibilities of a citizen in a democratic society and a citizen in the global community
- participating constructively in the democratic process by making rational decisions
- respecting the dignity and worth of self and others.

Citizenship education is based on an understanding of history, geography, economics, other social sciences and the humanities as they affect the Canadian community and the world. However, knowledge is changing rapidly. These changes bring into focus the need to provide the knowledge and skills necessary to meet the challenges of, and keep pace with, an ever-changing world. Therefore, emphasis is placed on learning those social studies facts, concepts, generalizations and skills that are useful for lifelong learning and responsible citizenship.

Social studies is organized around knowledge, skill and attitude objectives. These objectives should not be addressed separately or sequentially. The achievement of any one objective is directly related to the achievement of another; hence, they should be pursued simultaneously. The responsible citizen uses the knowledge, attitudes and skills acquired from the school, the family and the community.

In order to understand why people act the way they do, one has to examine the underlying reasons for their actions, including their values. Development of understanding of values (identification, definitions, descriptions) is incorporated in the knowledge objectives, and development of competencies (value analysis, decision making) is incorporated in the skill objectives.

KNOWLEDGE OBJECTIVES

To be a responsible citizen, one needs to be well-informed about the past as well as the present, and to be prepared for the future by drawing from history and the social sciences disciplines. The knowledge objectives take into account the history of our community, the nature of a democratic society, an understanding of the nature of man, and an understanding of our changing social, political, technological and economic environments.

Knowledge objectives for social studies topics are organized through generalizations and key understandings, concepts and related facts. A generalization is a rule or principle that shows relationships among two or more concepts. A key understanding is a statement of a major understanding related to the content of the unit. A concept is an idea or meaning represented by a word, term or other symbol that stands for a class or group of things. Facts are parts of information that apply to specific situations; for example, specific statements about people, things, events or ideas.

SKILL OBJECTIVES

Skills are taught best in the context of use rather than in isolation. While skill objectives are grouped into categories for organizational purposes, some of the skills may fit into more than one category. There is a wide variety of thinking skills essential to social studies. These skills are not intended to be developed separately or sequentially and are intertwined with the knowledge and attitude components. Skill objectives for social studies are grouped into the following categories:

Process Skills	– skills that help one acquire, evaluate and use information and ideas
Communication Skills	– skills that help one express and present information and ideas
Participation Skills	– skills that help one interact with others

Inquiry Strategies

Inquiry strategies help one answer questions, solve problems and make decisions using process, communication and participation skills. Thinking skills are developed by providing students with many experiences using strategies such as problem solving and decision making. The intent is to provide many opportunities within a topic/grade to use problem solving and/or decision making so that the students learn the strategies and then are able to transfer the skills to their own lives. Each topic includes questions that range from those that have an answer based on the available evidence, to those that are issues that need to be resolved. A problem may be defined as any situation for which a solution is desired. An issue may be defined as a matter of interest about which there is significant disagreement. The disagreement can involve matters of fact, meaning or values.

Each topic includes a section Issues and Questions for Inquiry. These sections are not intended to be exclusive. The success of inquiry is enhanced by selecting questions and issues related to the topic that are concrete, relevant, meaningful and of interest to students. Issues and questions can be teacher- or student-generated.

Issues and questions may be investigated using different strategies. Critical thinking and creative thinking may be encouraged by using a variety of inquiry strategies such as the problem-solving, decision-making and inquiry process models outlined below. Inquiry calls for choosing and blending strategies. Sometimes, a step-by-step approach may be best. At other times, a more flexible approach may be used. The following strategies can be expanded, modified or combined to suit specific topics, disciplinary emphases, resources and student maturity. Problem solving is a strategy of using a variety of skills to answer a question or solve a problem (who, why, what, where, when, how). Decision making is a strategy that uses values and a variety of skills to determine a solution to a problem/issue that involves a choice (should, how should, to what extent should) and that requires a decision for action. Large issues requiring a policy decision may be addressed through an inquiry strategy similar to the 1981 inquiry process model. (The strategies provided in curriculum documents vary from elementary through secondary levels.)

A Model for Answering Questions or Solving Problems

- Define a question/problem
- Develop questions or hypotheses to guide research
- Gather, organize and interpret information
- Develop a conclusion/ solution

A Model for Making Decisions

- Identify an issue
- Identify possible alternatives
- Devise a plan for research
- Gather, organize and interpret information
- Evaluate the alternatives using collected information
- Make a decision; plan or take action consistent with the decision (if desirable and feasible)
- Evaluate the action plan and decision-making process

A Model for the Inquiry Process (1981)

- Identify and focus on the issue
- Establish research questions and procedures
- Gather and organize data
- Analyze and evaluate data
- Synthesize data
- Resolve the issue
- Apply the decision (or postpone taking action)
- Evaluate the decision, the process, and (where pertinent) the action

ATTITUDE OBJECTIVES

The attitude objectives describe a way of thinking, feeling or acting and are developed through a variety of learning experiences that encompass knowledge and skill objectives. These experiences include participation in specific activities, the development of positive attitudes toward one another, and learning in an atmosphere of free and open inquiry. Attitude objectives should receive continuous and informal evaluation.

The development of the positive attitudes needed for responsible citizenship is a gradual and ongoing process. The attitude objectives for social studies, which students should develop, include:

- positive attitudes about learning
- positive and realistic attitudes about one's self
- attitudes of respect, tolerance and understanding toward individuals, groups and cultures in one's community and in other communities (local, regional, national, global)
- positive attitudes about democracy, including an appreciation of the rights, privileges and responsibilities of citizenship
- an attitude of responsibility toward the environment and community (local, regional, national, global).

C. SPECIFIC LEARNER EXPECTATIONS

The **specific** learner expectations in Social Studies 13, 23 and 33 are organized into knowledge, skill and attitude objectives. These objectives will be integrated into appropriate classroom experiences (exercises and activities) for learners. The **required** component comprises 80% of the program and is represented by topics and statements of objectives that follow. The required component contains the knowledge, skills and attitudes that all students should be expected to acquire. The **elective** component should occupy 20% of the program. The elective component provides enrichment and remediation consistent with the content and objectives of the required component and provides opportunities to adapt or enhance instruction to meet the diverse needs and abilities of students.

The study of **current affairs** adds considerably to the relevance, interest and immediacy of the Alberta Social Studies Program. It is expected that current affairs will be handled as inclusions and extensions of curricular objectives, not as a separate topic isolated from the program. This does not preclude examination of events or issues of significant local, national or international importance, provided a balanced approach that encourages the goals of responsible citizenship is employed and the prescribed objectives of the course are met.

Evaluation, within the Alberta Social Studies Curriculum, is the process of collecting, processing, interpreting and judging program objectives, teaching strategies, student achievement and instructional resources. Evaluation is important during all phases of planning and learning. It should begin with an assessment of student needs, and include consideration of ways that basic resources and support materials can be used to improve learning. Ongoing evaluation determines how well students are achieving prescribed objectives and permits the planning of specific learning experiences. Evaluation should assess the degree of overall success in meeting learning expectations in the program including knowledge, skill and attitude objectives. Knowledge and skill objectives should have equal weight in the evaluation used to calculate grades. Assessment of attitude objectives should not be used in calculating grades. Further information on evaluation is provided in the *Social Studies 13-23-33 Teacher Resource Manual*, 1990.

SOCIAL STUDIES 13

CANADA IN THE MODERN WORLD
Topic A: Challenges for Canada in the Twentieth Century

DESCRIPTION

Canada has evolved into a sovereign nation with a unique identity. In order to understand the development of their country as a nation and its role in the world community, students will examine some of the forces that have shaped Canada and the factors that give Canadians their unique identity. The object of this study is to provide students with the knowledge and skills necessary to participate more effectively as citizens of Canada and the world.

CRITICAL AND CREATIVE THINKING GOALS

In order to encourage critical and creative thinking, students should acquire the knowledge and skills necessary to:

a. assess the strengths and weaknesses of Canada as a nation
b. assess the effect of regionalism on Canada
c. understand why Canada has developed as a diverse community
d. develop and analyze possible solutions to current challenges for Canada as a nation.

It must be recognized that the degree to which students will be able to address the goals listed above will vary. Students should engage in activities such as role playing, simulations, debates, presentations or research assignments that give them an opportunity to participate, and to develop critical and creative thinking. These goals can be used in conjunction with selected issues and questions for inquiry.

ISSUES AND QUESTIONS FOR INQUIRY

In this topic, at least one issue and one question must be addressed using appropriate inquiry strategies (see page 4). Students are encouraged to address several issues and questions for inquiry. In choosing the issue and the question, one must fall under the national focus and one under the international focus. Teachers are encouraged to adapt these, and to develop other questions and issues for inquiry.

Issues

a. Should Canadians further encourage the development of a national identity? (national)
b. Should Canada provide for her security by maintaining her membership in regional alliances? (international)
c. How should Canada respond to current challenges/issues related to sovereignty? (national)
d. Should Canadians become more involved with global issues? (international)

Questions

e. How have Canadians developed a sense of unity as a nation in spite of diversity? (national)
f. Do regional differences contribute to or detract from the development of Canada? (national)
g. What has Canada done to become a sovereign and secure nation while promoting cooperation with other nations? (international)
h. How has Canada cooperated with other nations and international organizations? (international)

636

SPECIFIC LEARNER OBJECTIVES

In order to provide a clear statement of what students are expected to learn about this topic, the content has been organized into knowledge, skill and attitude objectives. However, for instructional purposes, the knowledge, skill and attitude objectives are to be incorporated into an organizational model for teaching the topic. Sample instructional models are provided in the Social Studies 13-23-33 Teacher Resource Manual, 1990. *Flexibility in selecting and designing an instructional organization for the unit is intended to accommodate the needs of students, maximize the use of available resources, and allow for coordination of instructional planning. Consequently, the knowledge, skill and attitude objectives should be integrated for instructional purposes, not taught in an isolated fashion. It is intended that each topic should receive equal emphasis in the course. Equal weighting should be given to knowledge and skill objectives in each topic. Attitude objectives should be addressed throughout the topic. Assessment of attitude objectives should not be used in calculating grades.*

Knowledge Objectives

The generalizations and key understandings, concepts and related facts and content listed in this topic are presented as an outline of the required content and help to organize the knowledge objectives. **The generalizations and key understandings are the most important knowledge objectives.** The concepts and related facts and content should be developed and used to facilitate an understanding of the Generalizations and Key Understandings.

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: DIVERSITY		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **Canada is a pluralistic community with different political, social, cultural and economic dimensions**	pluralism diversity	Identify a variety of political, religious, economic, ethnic and cultural groups in Canada

637

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: DIVERSITY (continued)		
	regionalism	Examine geographic examples of: • distribution of industries • resource distribution • population distribution
	disparity	Identify socioeconomic indicators to illustrate disparity: • per capita income • unemployment rate • training/educational levels • cost of living • standard of living
	alienation	Select at least one example of a group or political party to illustrate alienation; e.g.: • Cooperative Commonwealth Federation • Union Nationale • Social Credit • Reform Party • Parti Quebecois
THEME II: UNITY		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **there are political, social, cultural and economic factors that foster a sense of Canadian community**	community	Select one example of a national institution that has been used to foster a sense of community; e.g.: • CBC • Trans-Canada Highway Examine bilingualism and multiculturalism as they relate to Canadian unity: • bilingual policies • multicultural policies

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME II: UNITY (continued)	interdependence compromise equalization	Select at least one example of a government policy or program that is intended to reduce economic disparity; e.g.: • equalization payments • DRIE • western diversification • medicare • progressive income tax
THEME III: IDENTITY		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	***Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:***
a. **the Canadian identity is shaped by a variety of factors arising from our history and geography**	cultural mosaic	Examine the following factors as they relate to the Canadian identity: • national symbols • values • our own and others' perceptions of Canada • Canadian Family Tree – first peoples – two founding peoples – other cultural groups • population distribution according to cultural background
b. **an individual's cultural identity is influenced by interaction with others**	cultural identity	Examine examples of interaction with others in order to understand how they influence one's identity; e.g.: • family, church, community • majority/minority status • change in one's cultural identity occurs in part as a result of interaction with people

Subtopic: Canada in the World

This subtopic has three themes: *Sovereignty*, *Security* and *Cooperation*.

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: SOVEREIGNTY		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **Canada has evolved as a nation**	independence sovereignty	Examine the significance of the following in Canada's evolution toward a sovereign nation: • confederation • control of foreign policy decisions – declaration of war/ World War I – *Statute of Westminster, 1931* – declaration of war/ World War II • the *Constitution Act*, 1982 Select one example to explain economic/cultural sovereignty; e.g.: • foreign investment • free trade • fishing limits • law of the sea • acid rain • Great Lakes pollution • Arctic sovereignty • media
THEME II: SECURITY		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **Canadian security has been achieved and is maintained through alliances, agreements and independent action**	alliances	Briefly examine historical and current military involvements: • Canada in the British Empire • NATO • NORAD • entering World War II

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME III: COOPERATION		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **Canada works cooperatively and collectively with other nations and within world agencies and organizations**	internationalism	Select examples of Canada's international involvements; e.g.: • United Nations – peacekeeping • foreign aid programs • Commonwealth • La Francophonie • sports

Skill Objectives

Skills have been organized into process, communication and participation categories, with inquiry strategies included to emphasize the fact that skills are interrelated and often developed together. This section contains a list of skills to be addressed in this topic; however, these skills may be interchanged with those listed in Topic B or addressed in both topics at this grade level. Skills are interrelated and should be integrated with the knowledge and attitude objectives in the instructional process.

Process Skills

Process skills help one acquire, evaluate and use information and ideas. These skills include gathering, organizing, interpreting, analyzing, synthesizing and evaluating.

Students will be expected to develop the ability to:

a. **select appropriate sources of information on an issue**
b. **organize and use information from a variety of sources including print and non-print**
c. **identify bias in various sources**
d. **compare a variety of viewpoints on issues**
e. **take effective notes and summarize materials.**

Communication Skills

Communication skills help one express and present information and ideas. These skills include oral, visual and written expression.

Students will be expected to develop the ability to:

a. **express and defend ideas in written form**
b. **express ideas in visual form by preparing materials for display**
c. **discuss and defend a point of view**
d. **report on research results.**

Participation Skills

Participation skills enable one to interact with others. These skills include working effectively, individually and cooperatively, in group situations.

Students will be expected to develop the ability to:

a. **work at individual tasks in a group situation**
b. **work together in proposing and discussing alternative solutions to issues**
c. **cooperate in decision making.**

Inquiry Strategies

Inquiry strategies are combinations of skills that help one answer questions, solve problems and make decisions using process, communication and participation skills.

Students will be expected to develop the ability to:

a. **apply critical and creative thinking skills in problem solving and decision making**
b. **examine and consider alternatives before making a decision**
c. **assess the consequences of taking a particular course of action**
d. **evaluate the effect of a particular decision taken by the Government of Canada**
e. **use appropriate inquiry models to answer questions, solve problems and resolve issues.**

642

Attitude Objectives

The nature of social studies requires the examination of values and the encouragement of positive attitudes among students. While attention should be given to developing as many desirable personal characteristics and attitudes in students as possible, some attitudes need to be identified for particular emphasis in each topic. Students should participate in activities that help develop positive attitudes toward one another. Learning should take place in an atmosphere of free and open inquiry.

Students will be expected to develop:

a. **respect for and appreciation of the uniqueness of Canada**
b. **an appreciation of our evolving Canadian heritage**
c. **openness to new ideas and opinions about the nature of Canadian society**
d. **respect for the right of all Canadian citizens to express alternative points of view**
e. **sensitivity to what being Canadian means to different people in different regions of Canada**
f. **preference for peaceful resolution of conflict in personal relations and in society as a whole**
g. **respect for the many cultural groups in Canada**
h. **continuing interest in national, political, social and cultural affairs in Canada**
i. **an appreciation of Canada's role as a nation in an interdependent world.**

CANADA IN THE MODERN WORLD
Topic B: Citizenship in Canada

DESCRIPTION

Responsible citizenship in a democratic society such as Canada's requires the understanding and the exercising of rights and responsibilities by individuals and groups. In this unit, students will gain an understanding of the rights and responsibilities of citizenship and the knowledge and skills necessary for participation in the Canadian political process and in Canadian society.

CRITICAL AND CREATIVE THINKING GOALS

In order to encourage critical and creative thinking, students should acquire the knowledge and skills necessary to:

a. assess the strengths and weaknesses of Canada's democratic system
b. evaluate the adequacy of human rights protection in Canada
c. assess a variety of points of view on controversial citizenship issues before forming an opinion
d. develop and examine possible solutions to current citizenship issues.

It must be recognized that the degree to which students will be able to address the goals listed above will vary. Students should engage in activities such as role playing, simulations, debates, presentations or research assignments that give them an opportunity to participate, and to develop critical and creative thinking. These goals can be used in conjunction with selected issues and questions for inquiry.

ISSUES AND QUESTIONS FOR INQUIRY

In this topic, at least one question and one issue must be addressed using appropriate inquiry strategies (see page 4). Students are encouraged to address several issues and questions for inquiry. Teachers are encouraged to adapt these, and to develop other questions and issues for inquiry.

Issues

a. To what extent should individual freedom be limited in order to benefit society?
b. To what extent should citizens participate in their community?
c. Should voting in elections be required by law?
d. Should political representatives vote according to the views of their constituents or according to the position taken by their party?

Questions

e. What are the rights and responsibilities of a citizen in a democratic society?
f. How is the balance between social control and the protection of individual freedom provided for in the Canadian system of government?
g. How do individuals and groups influence the political decision-making process?
h. Why is it necessary to have an informed public in a democratic society?

G·11

SPECIFIC LEARNER OBJECTIVES

In order to provide a clear statement of what students are expected to learn about this topic, the content has been organized into knowledge, skill and attitude objectives. However, for instructional purposes, the knowledge, skill and attitude objectives are to be incorporated into an organizational model for teaching the topic. Sample instructional models are provided in the Social Studies 13-23-33 Teacher Resource Manual, 1990. *Flexibility in selecting and designing an instructional organization for the unit is intended to accommodate the needs of students, maximize the use of available resources, and allow for coordination of instructional planning. Consequently, the knowledge, skill and attitude objectives should be integrated for instructional purposes, not taught in an isolated fashion. It is intended that each topic should receive equal emphasis in the course. Equal weighting should be given to knowledge and skill objectives in each topic. Attitude objectives should be addressed throughout the topic. Assessment of attitude objectives should not be used in calculating grades.*

Knowledge Objectives

The generalizations and key understandings, concepts and related facts and content listed in this topic are presented as an outline of the required content and help to organize the knowledge objectives. **The generalizations and key understandings are the most important knowledge objectives.** The concepts and related facts and content should be developed and used to facilitate an understanding of the Generalizations and Key Understandings.

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: RIGHTS AND RESPONSIBILITIES		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **there are rights and responsibilities associated with citizenship**	rights responsibilities	Briefly explain rights and responsibilities of citizens: • rights – *Canadian Charter of Rights and Freedoms, 1982* – *Individual's Rights Protection Act* – Alberta Human Rights Commission – legal rights • responsibilities – legal – implied

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: RIGHTS AND RESPONSIBILITIES (continued)		
b. **the rights and responsibilities of individuals and groups in Canadian society have evolved and continue to change**	discrimination prejudice tolerance	Study at least one example of a situation where individual freedom or rights have been limited; e.g.: • aboriginal rights • children's rights • disabled persons' rights • language rights • minority rights • women's rights • workers' rights
THEME II: GOVERNMENT AND POLITICS		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **politics are a feature of everyday life**	decision making organization	Illustrate consensus, influence, negotiation and compromise by referring to examples from: • school • the community • the provincial level • the national level
b. **in order to function, Canada's government has a formal structure based on underlying rules and principles**	federal system democracy rule of law party system responsible government	Describe Canada's political structure by explaining the following: • constitutional monarchy • representative government • constitution • levels of government – federal – provincial – municipal • branches of government – executive – legislative – judicial

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME II: GOVERNMENT AND POLITICS (continued)		
		• passage of a bill • major political parties – Liberal – Progressive Conservative – New Democratic Party
c. **in a democratic society there are a variety of means used to resolve disagreements peacefully**	conflict cooperation justice	Choose at least one example of a resolution of either an historical or a current disagreement; e.g.: • use of court appeals • plebiscites • political compromise • negotiation • arbitration
THEME III: CITIZEN PARTICIPATION		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **citizens can be involved and participate in society**	participatory citizenship	Select examples of community involvement; e.g.: • Rural/Neighbourhood Crime Watch • Block Parent • Crimestoppers • service groups • volunteers
b. **there are methods of participating in and influencing the political decision-making process in Canada**	power influence	Examine how individuals participate in the political process: • campaigning/joining/forming parties • voting • joining or influencing those who have power and influence • example of media influence on political decision making

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME III: CITIZEN PARTICIPATION (continued)		
		Examine examples of input by citizens; e.g.: • letters • petitions • plebiscite/referendum • demonstrations • lobbying by special interest groups
c. **Canadian citizenship is acquired by various methods**	citizenship	Identify methods of gaining citizenship: • naturalization • birth

Skill Objectives

Skills have been organized into process, communication and participation categories, with inquiry strategies included to emphasize the fact that skills are interrelated and often developed together. This section contains a list of skills to be addressed in this topic; however, these skills may be interchanged with those listed in Topic A or addressed in both topics at this grade level. Skills are interrelated and should be integrated with the knowledge and attitude objectives in the instructional process.

Process Skills

Process skills help one acquire, evaluate and use information and ideas. These skills include gathering, organizing, interpreting, analyzing, synthesizing and evaluating.

Students will be expected to develop the ability to:

a. **identify and use relevant information from print and non-print sources**
b. **distinguish between fact and opinion**
c. **analyze a variety of proposed solutions to a problem or an issue**
d. **organize material in note form.**

Communication Skills

Communication skills help one express and present information and ideas. These skills include oral, visual and written expression.

Students will be expected to develop the ability to:

a. **speak effectively in presenting a point of view**
b. **discuss issues**
c. **convey information, and express ideas, using a visual format**
d. **defend a position in a short written assignment.**

Participation Skills

Participation skills enable one to interact with others. These skills include working effectively, individually and cooperatively, in group situations.

Students will be expected to develop the ability to:

a. **interact with others in a variety of group settings**
b. **participate in group decision making**
c. **work effectively with others.**

Inquiry Strategies

Inquiry strategies are combinations of skills that help one answer questions, solve problems and make decisions using process, communication and participation skills.

Students will be expected to develop the ability to:

a. **use the creative and critical thinking skills necessary for responsible citizenship**
b. **consider alternatives, make decisions and substantiate their choices**
c. **examine the processes whereby decisions affecting themselves and society are made**
d. **use appropriate inquiry models to answer questions, solve problems and resolve issues.**

Attitude Objectives

The nature of social studies requires the examination of values and the encouragement of positive attitudes among students. While attention should be given to developing as many desirable personal characteristics and attitudes in students as possible, some attitudes need to be identified for particular emphasis in each topic. Students should participate in activities that help develop positive attitudes toward one another. Learning should take place in an atmosphere of free and open inquiry.

Students will be expected to develop:

a. **an appreciation of the responsibilities inherent in the democratic way of life**
b. **a willingness to accept responsibility for the consequences of one's actions**
c. **an appreciation of and respect for the rights of others**
d. **and value peaceful resolution of conflict**
e. **a respect for the rights of others to hold opinions different from one's own**
f. **an appreciation of the fact that citizenship involves participation in the community and the nation.**

650

SOCIAL STUDIES 23

THE GROWTH OF THE GLOBAL PERSPECTIVE
Topic A: The Development of the Modern World

DESCRIPTION

Important changes in European society have helped to shape the modern world. In this unit, students will examine three historical themes in European society: the shift from a local outlook to a more national outlook; the shift from a rural/agrarian way of life to an urban/industrial way of life; and the shift from a hierarchical society to a more egalitarian society. The object of this study is to provide students with an understanding of the impact new ideas and changes have had and continue to have on society.

CRITICAL AND CREATIVE THINKING GOALS

In order to encourage critical and creative thinking, students should acquire the knowledge and skills necessary to:

a. analyze the impact on the world of the growth of nationalism in Europe
b. assess the impact of industrialization on Europe
c. analyze the growth of egalitarianism in Europe
d. draw comparisons between changes in Europe and developments in the world today
e. evaluate the impact of nationalism on the world of the future.

It must be recognized that the degree to which students will be able to address the goals listed above will vary. Students should engage in activities such as role playing, simulations, debates, presentations or research assignments that give them an opportunity to participate, and to develop critical and creative thinking. These goals can be used in conjunction with selected issues and questions for inquiry.

ISSUES AND QUESTIONS FOR INQUIRY

In this topic, at least one issue and one question must be addressed using appropriate inquiry strategies (see page 4). Students are encouraged to address several issues and questions for inquiry. Teachers are encouraged to adapt these, and to develop other questions and issues for inquiry.

Issues

a. To what extent should nationalism be encouraged?
b. Should further industrialization be encouraged?
c. Should society provide for greater social equality?

Questions

d. How did nationalism develop in Europe?
e. What were some positive and negative consequences of the development of nationalism?
f. Why can industrialization be viewed as a positive or a negative force?
g. How have demands for social equality had an impact on Europe?

SPECIFIC LEARNER OBJECTIVES

In order to provide a clear statement of what students are expected to learn about this topic, the content has been organized into knowledge, skill and attitude objectives. However, for instructional purposes, the knowledge, skill and attitude objectives are to be incorporated into an organizational model for teaching the topic. Sample instructional models are provided in the Social Studies 13-23-33 Teacher Resource Manual, 1990. *Flexibility in selecting and designing an instructional organization for the unit is intended to accommodate the needs of students, maximize the use of available resources, and allow for coordination of instructional planning. Consequently, the knowledge, skill and attitude objectives should be integrated for instructional purposes, not taught in an isolated fashion. It is intended that each topic should receive equal emphasis in the course. Equal weighting should be given to knowledge and skill objectives in each topic. Attitude objectives should be addressed throughout the topic. Assessment of attitude objectives should not be used in calculating grades.*

Knowledge Objectives

The generalizations and key understandings, concepts and related facts and content listed in this topic are presented as an outline of the required content and help to organize the knowledge objectives. **The generalizations and key understandings are the most important knowledge objectives.** The concepts and related facts and content should be developed and used to facilitate an understanding of the Generalizations and Key Understandings.

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: NATIONALISM		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **people lived more localized lives in the past**	tradition loyalty	Select an example to illustrate locally focused life; e.g.: • pre-revolutionary France • pre-revolutionary Russia
b. **a sense of national identity came to play a more important role in people's lives**	patriotism nation nationalism	Examine the French Revolution to show evolving nationalism: • causes • new sense of nationalism; e.g.: – National Assembly – symbols (flag/anthem/holidays) – levée en masse – public education • Napoleon's use of nationalism

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: NATIONALISM (continued)		
c. **the rise of nationalism has resulted in conflicting national interests**	alliances militarism conflict	Examine nationalism in the nineteenth and early twentieth centuries: • national unification – Germany • World War I – causes, including national, economic and military rivalries – the nature of the conflict; e.g., trench warfare, new weapons
d. **nationalism continues to be an important force in the twentieth century**	sovereignty self-determination	Select an example to illustrate types of nationalism in today's world; e.g.: • a group seeking to be recognized as a nation • a nation striving to maintain its independence • a nation acting in its own interest within the international sphere; e.g., economically, militarily, or in sports
THEME II: INDUSTRIALIZATION		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **European society was agrarian and localized in the past**	social hierarchy	Select an example to illustrate the nature of pre-industrial society: • England • France

653

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME II: INDUSTRIALIZATION (continued)		
b. **industrialization contributed to numerous and extensive changes in European society**	industrialization urbanization	Examine the impact of industrialization in England or France: • causes • economic development – expansion of markets – growth of factories • society – urbanization – quality of life – rise of the middle class – rise of the working class • politics – a brief reference to liberalism, conservatism, socialism
c. **industrialization affected Europe's relations with the rest of the world**	imperialism	Examine the relations between industrialized European nations and other nations: • nineteenth century imperialism – causes – examples – effects on international relations
d. **industrialization continues to be a major force in the twentieth century**	technology	Select at least one example of the impact of industrialization on today's world; e.g.: • effects of new technology; e.g., computers, automation • newly industrialized nations; e.g., South Korea, Mexico

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME III: EGALITARIANISM		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **people lived in a more stratified and highly immobile society in the past**	privilege	Examine the structure of society in pre-revolutionary France: • Three Estates
b. **equality and the potential for social mobility have increased for the individual**	equality mobility	Select examples from revolutionary France or nineteenth century England to illustrate: • social mobility • distribution of wealth • extension of suffrage
c. **changes in equality and social mobility have had, and continue to have, an impact on society**	egalitarianism	Examine the impact on society (past and present) of several of the following changes: • social programs • education • universal suffrage • role of women • protection of rights

Skill Objectives

Skills have been organized into process, communication and participation categories, with inquiry strategies included to emphasize the fact that skills are interrelated and often developed together. This section contains a list of skills to be addressed in this topic; however, these skills may be interchanged with those listed in Topic B or addressed in both topics at this grade level. Skills are interrelated and should be integrated with the knowledge and attitude objectives in the instructional process.

Process Skills

Process skills help one acquire, evaluate and use information and ideas. These skills include gathering, organizing, interpreting, analyzing, synthesizing and evaluating.

Students will be expected to develop the ability to:

a. **interpret written and visual materials**
b. **summarize written materials**
c. **analyze data through concept mapping or retrieval charts**
d. **use maps to gather, analyze and provide information**
e. **assess more than one point of view on an issue.**

Communication Skills

Communication skills help one express and present information and ideas. These skills include oral, visual and written expression.

Students will be expected to develop the ability to:

a. **construct time lines, flow charts and retrieval charts to display ideas**
b. **defend a point of view in a multi-paragraph composition**
c. **prepare a research project with a bibliography**
d. **present an informed position in a discussion or informal debate.**

Participation Skills

Participation skills enable one to interact with others. These skills include working effectively, individually and cooperatively, in group situations.

Students will be expected to develop the ability to:

a. **contribute to group discussions**
b. **work effectively with others in a variety of group settings**
c. **work within group rules and decisions to complete a task**
d. **organize and plan activities, and help make decisions as a group member.**

Inquiry Strategies

Inquiry strategies are combinations of skills that help one answer questions, solve problems and make decisions using process, communication and participation skills.

Students will be expected to develop the ability to:

a. **evaluate the effect of a particular change on European society in the past**
b. **examine the impact of one force of change from Europe on the modern world**
c. **examine a variety of viewpoints before forming an opinion.**

Attitude Objectives

The nature of social studies requires the examination of values and the encouragement of positive attitudes among students. While attention should be given to developing as many desirable personal characteristics and attitudes in students as possible, some attitudes need to be identified for particular emphasis in each topic. Students should participate in activities that help develop positive attitudes toward one another. Learning should take place in an atmosphere of free and open inquiry.

Students will be expected to develop:

a. **an appreciation that present society has been shaped by past experiences**
b. **an appreciation that change in society is accompanied by positive and negative consequences**
c. **an appreciation that alternative viewpoints exist toward developments that have changed our society**
d. **an appreciation of the role of new ideas and developments in a changing society**
e. **respect for the right of others to hold a different point of view.**

THE GROWTH OF THE GLOBAL PERSPECTIVE
Topic B: Challenges in the Global Environment

DESCRIPTION

Differing viewpoints on quality of life exist in today's world. In this topic, students will examine how global imbalances, environmental factors and differing perspectives influence quality of life in an interdependent global community. To improve quality of life, one must consider possible alternatives as well as the impact of these changes. The object of this study is for students to recognize the diversity and interrelatedness of the world so that they can participate more effectively as responsible world citizens.

CRITICAL AND CREATIVE THINKING GOALS

In order to encourage critical and creative thinking, students should acquire the knowledge and skills necessary to:

a. evaluate the diversity and disparity of world regions
b. explain the interdependent nature of the world
c. examine quality of life from their own perspective and from other perspectives
d. evaluate the impact of different approaches to development
e. assess proposed future alternatives to current quality of life.

It must be recognized that the degree to which students will be able to address the goals listed above will vary. Students should engage in activities such as role playing, simulations, debates, presentations or research assignments that give them an opportunity to participate, and to develop critical and creative thinking. These goals can be used in conjunction with selected issues and questions for inquiry.

ISSUES AND QUESTIONS FOR INQUIRY

In this topic, at least one issue and one question must be addressed using appropriate inquiry strategies (see page 4). Students are encouraged to address several issues and questions for inquiry. Teachers are encouraged to adapt these, and to develop other questions and issues for inquiry.

Issues

a. To what extent should our concept of quality of life be used as a measure of quality of life in other nations?
b. To what extent should the resources of the world be shared?
c. Should we, as individuals, share the responsibility for meeting the social and economic needs of other people?

Questions

d. What are some perspectives on quality of life?
e. How do political and economic decisions and actions taken in one part of the world have effects on another part of the world?
f. How does the use of resources affect the environment?
g. How does the use of resources affect global relations?
h. How can individuals or groups play a role in international issues?

658

SPECIFIC LEARNER OBJECTIVES

In order to provide a clear statement of what students are expected to learn about this topic, the content has been organized into knowledge, skill and attitude objectives. However, for instructional purposes, the knowledge, skill and attitude objectives are to be incorporated into an organizational model for teaching the topic. Sample instructional models are provided in the Social Studies 13-23-33 Teacher Resource Manual, 1990. *Flexibility in selecting and designing an instructional organization for the unit is intended to accommodate the needs of students, maximize the use of available resources, and allow for coordination of instructional planning. Consequently, the knowledge, skill and attitude objectives should be integrated for instructional purposes, not taught in an isolated fashion. It is intended that each topic should receive equal emphasis in the course. Equal weighting should be given to knowledge and skill objectives in each topic. Attitude objectives should be addressed throughout the topic. Assessment of attitude objectives should not be used in calculating grades.*

Knowledge Objectives

The generalizations and key understandings, concepts and related facts and content listed in this topic are presented as an outline of the required content and help to organize the knowledge objectives. **The generalizations and key understandings are the most important knowledge objectives.** The concepts and related facts and content should be developed and used to facilitate an understanding of the Generalizations and Key Understandings.

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: GLOBAL REGIONALISM		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **there is diversity in the economic and social conditions and cultural backgrounds of people in the world**	diversity disparity culture	Illustrate diversity in the world through a brief overview of world geography: • political units and alignments • geographical regions • economic zones Focus on examples of diversity in the world through a brief overview: • social conditions; e.g., health, literacy, nutrition, population growth • economic development; e.g., agriculture, manufacturing

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: GLOBAL REGIONALISM (continued)		• cultural backgrounds; e.g., language, religion • political stability
b. **perspectives on quality of life are influenced by various factors within a society**	quality of life standard of living value system	Illustrate differing perspectives and factors that influence quality of life by comparing selected countries from Africa, Asia and the Americas: • beliefs and values; e.g., religious, social and material • social structure • demography • environment • government policies • economic strategies
THEME II: GLOBAL INTERDEPENDENCE AND QUALITY OF LIFE		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **quality of life is influenced by the interdependence of peoples and nations**	interdependence	Select examples to illustrate global interdependence and its effect on quality of life; e.g.: • trade • multinational corporations • migration of people • technological exchange • cultural exchange/tourism • communication/transportation • diplomacy; e.g., economic summits • medical advances • foreign debt

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME II: GLOBAL INTERDEPENDENCE AND QUALITY OF LIFE (continued)		
b. **environmental situations affect quality of life**	environmental deterioration ecological balance resource depletion resource renewal	Select examples of environmental situations focusing on their affects on quality of life; e.g.: • deforestation/reforestation • desertification/reclamation • environmental pollution/ restoration; e.g., recycling, ozone layer depletion, greenhouse effect • ecological management; e.g., new crops, irrigation, conservation farming
c. **economic activities affect quality of life**	resource distribution cooperation technology	Select examples of economic activities that affect quality of life; e.g.: • foreign investment • trade • resource development • multinational corporations • industrial integration • local economic activities – subsistence agriculture – cooperatives – industries – other activities
d. **differing perspectives and approaches may be used to improve quality of life**	sustainable development	Choose examples of possible strategies that individuals or groups may take to improve quality of life; e.g.: • changes in government • redistribution of land • foreign aid • foreign investment • nationalization of key institutions/industries • education/training • use of technology • self-help projects and local initiatives

Skill Objectives

Skills have been organized into process, communication and participation categories, with inquiry strategies included to emphasize the fact that skills are interrelated and often developed together. This section contains a list of skills to be addressed in this topic; however, these skills may be interchanged with those listed in Topic A or addressed in both topics at this grade level. Skills are interrelated and should be integrated with the knowledge and attitude objectives in the instructional process.

Process Skills

Process skills help one acquire, evaluate and use information and ideas. These skills include gathering, organizing, interpreting, analyzing, synthesizing and evaluating.

Students will be expected to develop the ability to:

a. **locate, interpret and organize information from print and non-print sources**
b. **identify points of view or perspectives from various sources of information**
c. **predict outcomes of alternative futures based on factual data**
d. **examine evidence and evaluate alternatives before making a decision.**

Communication Skills

Communication skills help one express and present information and ideas. These skills include oral, visual and written expression.

Students will be expected to develop the ability to:

a. **write a report based on factual data to support a position**
b. **present information in forms such as maps, diagrams and charts**
c. **prepare visuals and notes for delivery of a presentation**
d. **defend a position in a group discussion.**

Participation Skills

Participation skills enable one to interact with others. These skills include working effectively, individually and cooperatively, in group situations.

Students will be expected to develop the ability to:

a. **contribute information on issues and questions in the classroom**
b. **work independently as part of a larger group**
c. **work effectively with others in a variety of group settings.**

Inquiry Strategies

Inquiry strategies are combinations of skills that help one answer questions, solve problems and make decisions using process, communication and participation skills.

Students will be expected to develop the ability to:

a. **consider alternative perspectives, make decisions and defend their choices**
b. **use appropriate inquiry models to answer questions, solve problems and resolve issues**
c. **critically examine developments that may affect quality of life**
d. **evaluate alternative solutions on global issues.**

662

Attitude Objectives

The nature of social studies requires the examination of values and the encouragement of positive attitudes among students. While attention should be given to developing as many desirable personal characteristics and attitudes in students as possible, some attitudes need to be identified for particular emphasis in each topic. Students should participate in activities that help develop positive attitudes toward one another. Learning should take place in an atmosphere of free and open inquiry.

Students will be expected to develop:

a. **an appreciation that diversity exists in the world**
b. **an appreciation that there are different perspectives on quality of life**
c. **an appreciation that responsible world citizenship includes recognizing the interdependent nature of the world**
d. **a respect for the right of others to hold different viewpoints on global issues**
e. **an appreciation that there are varied approaches to the resolution of global issues**
f. **an interest in current international issues.**

663

SOCIAL STUDIES 33

THE CONTEMPORARY WORLD
Topic A: Political and Economic Systems

DESCRIPTION

Important differences exist in the way societies make decisions and how they satisfy their needs and wants. These differences reflect the value placed on individual and collective goals within political and economic systems. Consequently the degree of freedom and control varies among different political and economic systems. The objective of this study is to enable students to acquire an understanding of major political and economic ideas and systems so that they can participate as effective and responsible citizens.

CRITICAL AND CREATIVE THINKING GOALS

In order to encourage critical and creative thinking, students should acquire the knowledge and skills necessary to:

a. compare the basic characteristics of the major political and economic systems
b. evaluate strengths and weaknesses of the major political and economic systems in practice
c. identify various viewpoints on issues and recognize the values underlying differing positions
d. propose solutions to political and economic problems.

It must be recognized that the degree to which students will be able to address the goals listed above will vary. Students should engage in activities such as role playing, simulations, debates, presentations or research assignments that give them an opportunity to participate, and to develop critical and creative thinking. These goals can be used in conjunction with selected issues and questions for inquiry.

ISSUES AND QUESTIONS FOR INQUIRY

In this topic, at least one issue and one question must be addressed using appropriate inquiry strategies (see page 4). Students are encouraged to address several issues and questions for inquiry. Teachers are encouraged to adapt these, and to develop other questions and issues for inquiry. Issues and questions should be selected so that both the political and economic components of the topic are addressed.

Issues

a. Should individuals be held responsible for their own economic well-being?
b. To what extent should governments control the lives of individuals?
c. To what extent should governments pursue the common good?
d. Should political participation be compulsory?

Questions

e. What are the essential features of the major political and economic systems?
f. In what ways does leadership in democracies compare with leadership in authoritarian states?
g. How do individuals exert influence within the major political systems?
h. What are the similarities and differences between public and private enterprise?
i. How are the decisions about the production and distribution of goods and services determined in each economic system?

664

SPECIFIC LEARNER OBJECTIVES

In order to provide a clear statement of what students are expected to learn about this topic, the content has been organized into knowledge, skill and attitude objectives. However, for instructional purposes, the knowledge, skill and attitude objectives are to be incorporated into an organizational model for teaching the topic. Sample instructional models are provided in the Social Studies 13-23-33 Teacher Resource Manual, 1990. *Flexibility in selecting and designing an instructional organization for the unit is intended to accommodate the needs of students, maximize the use of available resources, and allow for coordination of instructional planning. Consequently, the knowledge, skill and attitude objectives should be integrated for instructional purposes, not taught in an isolated fashion. It is intended that each topic should receive equal emphasis in the course. Equal weighting should be given to knowledge and skill objectives in each topic. Attitude objectives should be addressed throughout the topic. Assessment of attitude objectives should not be used in calculating grades.*

Knowledge Objectives

The generalizations and key understandings, concepts and related facts and content listed in this topic are presented as an outline of the required content and help to organize the knowledge objectives. **The generalizations and key understandings are the most important objectives within each topic.** The concepts and related facts and content should be developed and used to facilitate an understanding of the Generalizations and Key Understandings.

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: POLITICAL SYSTEMS		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **all societies have a form of political organization for decision making**	organization order security decision making	Examine simple organizational models relevant to student experiences to show the decision-making process; e.g.: • home, school, work, clubs, teams

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: POLITICAL SYSTEMS (continued)		
b. **political systems are organized for the exercise of power by individuals and/or groups based on their ideology**	power leadership democracy/ participation majority rule/ minority rights dictatorship/elitism ideology fascism communism	Briefly compare dictatorship and democracy in terms of: • simple models of power and decision making – leadership (responsibility, division of power) – citizen's role • ideology – view of human nature – goals of systems Use the criteria above to illustrate differences among the major political systems in practice; briefly examine examples of: • democracies – Canada – the United States • dictatorships – Nazi Germany – the U.S.S.R. • current and/or historical situations
c. **the role of the individual varies from one political system to another**	human rights citizenship	Compare political systems in terms of: • individual participation • decision making • basic human rights and freedoms
d. **political systems continue to evolve**	constitutional change reform	Examine recent examples of: • political change; e.g.: – Canada (Meech Lake Accord) – U.S.S.R. (glasnost)

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME II: ECONOMIC SYSTEMS		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **economic decisions must be made to meet the needs and wants of individuals because resources are limited**	scarcity needs wants cooperation competition	Use examples from student experiences to develop ideas about how we make choices within the limits of our resources; e.g.: • home, school, community, work
b. **economic systems are organized in different ways to deal with basic economic questions that arise from the problem of scarcity**	private enterprise public enterprise mixed economy individualism collectivism	Briefly examine the basic economic questions and how they are addressed in economic systems: • what is produced • how it is produced • how it is distributed/allocated Identify the essential features of the following types of economic systems: • market economy (capitalism) – supply and demand – individualism – incentive – private ownership • planned economy (socialism) – central planning – collectivism – incentive – public ownership • mixed economy – balance between private and public enterprise – direct and indirect controls Briefly examine how economic decisions are made in the following countries: • Canada • the United States • the U.S.S.R. • Sweden

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME II: ECONOMIC SYSTEMS (continued)		
c. **each economic system provides benefits to individuals in varying degrees**	standard of living quality of life	Compare each economic system in terms of: • individual security • economic freedom • consumer choice • economic stability • economic growth • availability of basic services • efficiency • distribution of income • cost of living
d. **governments change economic policies to accommodate changing circumstances**	government intervention privatization	Examine several of the following and refer to current illustrations where appropriate: • incentives/subsidies • interest rate/money supply • redistribution of wealth • ownership and regulation of business • job creation • environmental legislation • other; e.g., perestroika

668

Skill Objectives

Skills have been organized into process, communication and participation categories, with inquiry strategies included to emphasize the fact that skills are interrelated and often developed together. This section contains a list of skills to be addressed in this topic; however, these skills may be interchanged with those listed in Topic B or addressed in both topics at this grade level. Skills are interrelated and should be integrated with the knowledge and attitude objectives in the instructional process.

Process Skills

Process skills help one acquire, evaluate and use information and ideas. These skills include gathering, organizing, interpreting, analyzing, synthesizing and evaluating.

Students will be expected to develop the ability to:

a. **select and organize information from a variety of references for a particular purpose**
b. **note key ideas to identify a speaker's or writer's purpose**
c. **interpret information by selecting main ideas, key points and supporting points**
d. **analyze information to detect bias, propaganda or opinion**
e. **synthesize information to identify alternative positions.**

Communication Skills

Communication skills help one express and present information and ideas. These skills include oral, visual and written expression.

Students will be expected to develop the ability to:

a. **acquire and use vocabulary appropriate to course content**
b. **express and defend a point of view**
c. **select and use an appropriate medium for presenting ideas**
d. **clearly express ideas in oral and written form.**

Participation Skills

Participation skills enable one to interact with others. These skills include working effectively, individually and cooperatively, in group situations.

Students will be expected to develop the ability to:

a. **show respect for the rights and opinions of others**
b. **work independently and in group settings**
c. **share information on controversial issues in a rational manner**
d. **identify and apply leadership abilities.**

Inquiry Strategies

Inquiry strategies are combinations of skills that help one answer questions, solve problems and make decisions using process, communication and participation skills.

Students will be expected to develop the ability to:

a. **distinguish between relevant and irrelevant information**
b. **use an appropriate problem-solving model to answer a question or solve a problem**
c. **employ a decision-making model to examine alternatives for resolving an issue**
d. **evaluate alternative political and economic systems in regard to individuals, groups and society.**

Attitude Objectives

The nature of social studies requires the examination of values and the encouragement of positive attitudes among students. While attention should be given to developing as many desirable personal characteristics and attitudes in students as possible, some attitudes need to be identified for particular emphasis in each topic. Students should participate in activities that help develop positive attitudes toward one another. Learning should take place in an atmosphere of free and open inquiry.

Students will be expected to develop:

a. **a willingness to accept some responsibility for political and economic matters affecting society**
b. **a willingness to consider a variety of perspectives on an issue before making a decision**
c. **an appreciation that decision making should be based on a critical examination of information and alternative viewpoints**
d. **a positive attitude toward the exercising of responsibilities and rights of citizenship in a democratic society.**

THE CONTEMPORARY WORLD
Topic B: Global Interaction in the Twentieth Century

DESCRIPTION

Global interaction has been largely motivated by nations and groups seeking to promote and protect their own interests. In addition, international organizations and individuals have worked toward humanitarian goals. Concern about the consequences of conflict, a desire for peace, and an awareness of the interdependence of nations have led to increasing efforts and initiatives toward international cooperation. In order for students to participate effectively as responsible citizens of Canada and the world, they should understand how other nations and groups have sought to protect and promote their national interests. They should also appreciate how individuals and groups contribute to, and are affected by global interactions, and how these interactions have consequences for their lives and the global community.

CRITICAL AND CREATIVE THINKING GOALS

In order to encourage critical and creative thinking, students should acquire the knowledge and skills necessary to:

a. develop criteria to assess efforts to promote international cooperation
b. develop and evaluate approaches to resolving international disputes
c. analyze the causes and consequences of selected major international disputes
d. assess current international events from varying perspectives.

It must be recognized that the degree to which students will be able to address the goals listed above will vary. Students should engage in activities such as role playing, simulations, debates, presentations or research assignments that give them an opportunity to participate, and to develop critical and creative thinking. These goals can be used in conjunction with selected issues and questions for inquiry.

ISSUES AND QUESTIONS FOR INQUIRY

In this topic, at least one issue and one question must be addressed using appropriate inquiry strategies (see page 4). Students are encouraged to address several issues and questions for inquiry. Teachers are encouraged to adapt these, and to develop other questions and issues for inquiry.

Issues

a. Should nations ever go to war?
b. To what extent should nations promote international cooperation and peace?
c. Should individuals/organizations take a more active role in international affairs?
d. To what extent should national needs and wants override global welfare?

Questions

e. What major factors influence interaction among nations?
f. How do nations seek to protect and enhance their national interests?
g. What are the major consequences of international disputes?
h. In what ways can individuals contribute to resolving world problems?
i. How have nations worked together to solve problems?
j. How can the major threats to global survival be reduced?

SPECIFIC LEARNER OBJECTIVES

In order to provide a clear statement of what students are expected to learn about this topic, the content has been organized into knowledge, skill and attitude objectives. However, for instructional purposes, the knowledge, skill and attitude objectives are to be incorporated into an organizational model for teaching the topic. Sample instructional models are provided in the Social Studies 13-23-33 Teacher Resource Manual, 1990. *Flexibility in selecting and designing an instructional organization for the unit is intended to accommodate the needs of students, maximize the use of available resources, and allow for coordination of instructional planning. Consequently, the knowledge, skill and attitude objectives should be integrated for instructional purposes, not taught in an isolated fashion. It is intended that each topic should receive equal emphasis in the course. Equal weighting should be given to knowledge and skill objectives in each topic. Attitude objectives should be addressed throughout the topic. Assessment of attitude objectives should not be used in calculating grades.*

Knowledge Objectives

The generalizations and key understandings, concepts and related facts and content listed in this topic are presented as an outline of the required content and help to organize the knowledge objectives. **The generalizations and key understandings are the most important knowledge objectives.** The concepts and related facts and content should be developed and used to facilitate an understanding of the Generalizations and Key Understandings.

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: INTERACTIONS AMONG NATIONS (1919-1945)		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **interactions among nations involve a wide range of motives, methods and consequences**	nationalism internationalism cooperation conflict	Examine simple models and/or examples from current events and student experiences to develop ideas about motives, methods and consequences of global interactions: • motives – security – peace – prosperity – promote or defend against ideologies – prestige

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: INTERACTIONS AMONG NATIONS (1919–1945) (continued)		• methods – treaties/agreements – diplomacy – sanctions – alliances – international law – confrontations – war • consequences – new social roles and attitudes – new economic and political relations – territorial changes
b. **major interactions among nations often result in changes within countries**	self-determination social change	Briefly examine changes that occurred as a result of World War I: • the effect of the *Treaty of Versailles* on Germany • disintegration of the Austro-Hungarian empire and the creation of new states • social transformation – role of women – attitudes toward war
c. **global interaction results in new directions in international relationships**	global collective security national security	Examine the efforts of nations to provide for their security: • League of Nations • disarmament conferences • regional alliances • isolationism • appeasement
d. **economic crisis may result in changes that challenge international security**	depression militarism aggression arms race	Examine the challenges to international security prior to World War II posed by: • the Depression – protectionism – indebtedness • the rise of totalitarian states – Nazi Germany – Japan

873

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME I: INTERACTIONS AMONG NATIONS (1919–1945) (continued)		• the failure of the League of Nations – Japanese invasion of Manchuria – Germany's rearmament and expansion
e. **the Second World War changed the scope and nature of warfare**	total war	Examine the characteristics and consequences of World War II: • blitzkrieg • mass bombings • Holocaust • use of atomic weapons • war crimes
THEME II: THE RISE OF THE SUPERPOWERS AND THE EMERGENCE OF THE UNITED NATIONS (1946–1975)		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **since World War II, nations and international organizations have used a variety of means to provide for national interests and international stability in the world**	superpowers collective security regional alliances international organizations	Briefly examine how the following relate to international cooperation, international confrontation and superpower management of conflict: – wartime conferences – United Nations – Marshall Plan – Comecon – European Community (EC)

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME II: THE RISE OF THE SUPERPOWERS AND THE EMERGENCE OF THE UNITED NATIONS (1946–1975) (continued)		
b. **the struggle between the U.S.S.R. and the U.S.A. dominated international relations**	cold war brinkmanship spheres of influence confrontation containment deterrence peaceful coexistence	Refer to the following items to illustrate the struggle between the U.S.A. and the U.S.S.R.: • Truman Doctrine • arms race/nuclear weapons • Korean War • NATO • Warsaw Pact • NORAD • Cuban Missile Crisis
c. **new nation-states have affected the role of the superpowers and international relations**	alignment revolution military intervention non-alignment independence	Briefly examine the impact of the emergence of new nations on international relations. Select at least one example to illustrate different effects; e.g.: • India and Pakistan • China (1949) • Vietnam • Israel
THEME III: INTERACTIONS IN THE CONTEMPORARY WORLD (1975 – PRESENT)		
Students will be expected to understand that:	*Students will be expected to develop an understanding of the following concepts:*	*Students will be expected to use the related facts and content to develop the generalizations, key understandings and concepts:*
a. **the role of the superpowers in international relations is changing**	disarmament conflict management détente	Briefly examine changes affecting the superpowers: • tensions; e.g.: – Afghanistan – Central America • cooperation; e.g.: – arms reduction talks • challenges; e.g.: – Japanese economic power • changes in Europe

Generalizations and Key Understandings	Concepts	Related Facts and Content
THEME III: INTERACTIONS IN THE CONTEMPORARY WORLD (1975 – PRESENT) (continued)		
b. **interdependence among nations is increasing**	interdependence	Examine at least one current example of interdependence; e.g.: • European Community • international debt • new technology
c. **individuals and organizations play a role in addressing international concerns**	environmentalism human rights humanitarianism	Examine at least one current example of how individuals and groups are attempting to solve international concerns and problems; e.g.: • human rights movements • peace movements • environmental movements • international conferences and organizations

Skill Objectives

Skills have been organized into process, communication and participation categories, with inquiry strategies included to emphasize the fact that skills are interrelated and often developed together. This section contains a list of skills to be addressed in this topic; however, these skills may be interchanged with those listed in Topic A or addressed in both topics at this grade level. Skills are interrelated and should be integrated with the knowledge and attitude objectives in the instructional process.

Process Skills

Process skills help one acquire, evaluate and use information and ideas. These skills include gathering, organizing, interpreting, analyzing, synthesizing and evaluating.

Students will be expected to develop the ability to:

a. **locate, select, interpret and organize information from print and non-print sources**
b. **interpret visual images and recognize cartoons and pictures as sources of information**
c. **analyze information to determine accuracy and relevancy**
d. **synthesize information gathered from a variety of sources**
e. **evaluate the appropriateness of the process used to arrive at a decision.**

Communication Skills

Communication skills help one express and present information and ideas. These skills include oral, visual and written expression.

Students will be expected to develop the ability to:

a. **deliver information in oral presentations with the aid of prepared notes**
b. **defend a point of view in a written composition**
c. **demonstrate learning by producing or displaying work such as models, time lines, art work, cartoons or videotapes**
d. **use prewriting strategies in the preparation and development of written work such as brainstorming, concept mapping or outlining.**

Participation Skills

Participation skills enable one to interact with others. These skills include working effectively, individually and cooperatively, in group situations.

Students will be expected to develop the ability to:

a. **contribute ideas confidently in a variety of group settings such as brainstorming, class discussions and small group discussions**
b. **work effectively with others in a variety of group settings**
c. **participate in a group setting by assuming various roles such as leader, participant, recorder or reporter.**

Inquiry Strategies

Inquiry strategies are combinations of skills that help one answer questions, solve problems and make decisions using process, communication and participation skills.

Students will be expected to develop the ability to:

a. **use appropriate inquiry models to answer questions, solve problems and resolve issues regarding perspectives on global interaction**
b. **develop a conclusion/solution to problems and issues related to global interaction**
c. **assess evidence and evaluate solutions to problems and issues as to feasibility and desirability**
d. **assess the impact of global interaction on their lives.**

Attitude Objectives

The nature of social studies requires the examination of values and the encouragement of positive attitudes among students. While attention should be given to developing as many desirable personal characteristics and attitudes in students as possible, some attitudes need to be identified for particular emphasis in each topic. Students should participate in activities that help develop positive attitudes toward one another. Learning should take place in an atmosphere of free and open inquiry.

Students will be expected to develop:

a. **an appreciation for the variety of perspectives and different solutions to an issue**
b. **a desire to keep informed on issues that affect society**
c. **an appreciation for the efforts of nations, groups and individuals to find constructive ways of resolving international differences**
d. **a tolerance for the right of others to hold and express different opinions and attitudes.**

678

D. BASIC LEARNING RESOURCES

Social Studies 13

Topic A

Bartlett, Gillian and Janice Galivan. *Canada: History in the Making.* Toronto, ON: John Wiley & Sons Canada Limited, 1986.

ISBN 0471797952

Topic B

Bartlett, Gillian and Janice Galivan. *Canada: History in the Making.* Toronto, ON: John Wiley & Sons Canada Limited, 1986.

ISBN 0471797952

Social Studies 23

Topic A

Leinwand, Gerald. *The Pageant of World History.* Alberta edition. Scarborough, ON: Prentice-Hall Canada Inc., 1989.

ISBN 0136450032

Topic B

Dunlop, Stewart. *Towards Tomorrow: Canada in a Changing World: Geography.* Toronto, ON: HBJ-Saunders, 1988.

ISBN 0774712562

Harshman, Robert and Christine Hannell. *World Issues in the Global Community.* Toronto, ON: John Wiley & Sons Canada Limited, 1989.

ISBN 0471796921

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Topic A

Contemporary Political and Economic Systems. Alberta Education, 1990.

ISBN S7026

Topic B

O'Callaghan, Bryn. *A History of the Twentieth Century.* Longman, 1987.

ISBN 0582331722